

# SAVIR 2021

## Submission Document

### Abstract Book

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**0005**

Impact of COVID on Hospital Based Violence Intervention Programs

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**Abstract:****Purpose**

Hospital-Based Violence Intervention Programs (HVIPs) provide trauma-informed, culturally competent, community-based services to violently injured patients. The HVIP model centers on violence intervention specialists who engage patients in the hospital, provide advocacy during the visit and deliver intensive case management after discharge. HVIPs promote psychosocial healing and improved social determinants of health for under-resourced communities of color disproportionately impacted by both the COVID-19 pandemic and structural violence. This study seeks to describe the initial impact of COVID-19 on these programs and their clients.

**Methods**

A survey, developed with input from HVIP staff, probed changes in community violence, service delivery, and client needs. 32 programs, located in 19 states and DC, were invited to take the survey online. Descriptive statistics were calculated to describe changes between 2019 and 2020 clients served, implementation practices and client outcomes.

**Results**

Preliminary results of the first 17 surveys completed (56% response rate) are reported. Compared to February 2020 there was a slight increase (5.6%) in patients seen in the Emergency Department who were eligible for HVIP services in April 2020 and a significant increase (58.2%) in June 2020, reflecting increased interpersonal violence during the pandemic. From March through June of 2020, programs served 19.5% more clients than during the same period in 2019, showing increased demand for these services. The types of services needed also shifted during the pandemic with increases in food and financial assistance requested. 16 out of 17 programs reported providing COVID-19 specific support to clients and communities.

**Significance**

Preliminary results suggest COVID-19 has had a significant impact on communities impacted by violence and HVIP implementation across the country. This study begins to provide a greater understanding of programs' and clients' needs in the present context. As the pandemic endures, additional research is warranted to identify policy, training and funding priorities.

**TweetHandle:** Hospital Based Violence Intervention Programs (HVIPs) serve communities of color impacted by both the COVID pandemic and structural violence. This national survey of HVIPs highlights the initial impact of COVID on these programs and the clients they serve. <https://twitter.com/thehavi>

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**0008**

The impact of a Stay-At-Home order on motor vehicle injury rates in West Virginia

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**Abstract: Statement of Purpose:** Little is known about the relationship between Stay-At-Home (SAH) orders issued by state governments due to the COVID-19 pandemic and their impacts on motor vehicle-related injuries. The purpose of this study was to determine whether the presence of a SAH was associated with lower rates of motor-vehicle-related injuries requiring emergency medical treatment among population sub-groups in West Virginia (WV) (i.e. males, females, 0-17, 18-15, 26-45, 46-65, >66 years old).

**Methods/Approach:** A SAH order was in effect in WV from March 23 until May 4, 2020 (week 13-18 of 2020). Counts of individuals who incurred motor-vehicle-related injuries that required emergency medical treatment in WV were obtained from the Centers for Disease Control and Prevention's Syndromic Surveillance system from Jan 1, 2019 thru Sept 6, 2020. Counts were obtained by week-year and by population subgroup. The presence of the SAH order was binary coded by week. Negative binomial regression was used to assess the relationship between the presence of a SAH and injury rates. 2019 population sub-group estimates were obtained from the United States Census Bureau and used as offsets in the models.

**Results:** There were 28,763 motor-vehicle related injuries during the study period. The presence of the SAH was associated with 46% less injuries overall [Incident Rate Ratio (IRR)=0.54, 95% CI 0.47, 0.62]. During the SAH, females experienced fewer injuries than males (IRR=0.49 vs 0.59, respectively) and the number of injuries decreased with age (p-value 0.031).

**Conclusions:** WV's SAH order was associated with lower motor-vehicle injury rates across all populations sub-groups. These findings indicate that most population sub-groups likely altered their travel behaviors which resulted in lower motor-vehicle injury rates.

**Significance and Contribution to Injury and Prevention Science:** These findings may inform future policies that impose emergency travel restrictions in populations.

**TweetHandle:**

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**0012**

Single Mothers: Portals of Critical Knowledge in the Effort to Mitigate Youth Gun Violence

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**Abstract:** Single mothers and their children residing in high-crime communities (HCCs) in the United States are disproportionately exposed to crime, and therefore, the criminal justice system. Specific challenges of single motherhood in HCCs compound the link between juvenile offending and single-female-headed households. Little is known, however, about how single mothers in HCCs perceive and use the police as a resource to help prevent juvenile offending, specifically gun violence. The purpose of this study was to explore the lived experiences of single mothers with police as they related to the arrest of their children for a gun crime. The research questions focused on understanding how single mothers in HCCs currently perceive the police in terms of effectiveness in preventing youth gun violence, if they currently use the police as part of a prevention strategy, and, if so, how they engage with the police. The theoretical base for this study was Husserl's transcendental phenomenological theory. Snowball sampling was used to identify 7 participants for individual interviews. Data from the interviews were coded and categorized for thematic analysis. Eleven themes emerged from the data analysis which highlighted the importance of officer demeanor and trust-building abilities. Findings also suggested that single mothers in HCCs should be regarded by police agencies as critical portals of information regarding youth gun crime. The implications for social change and injury and violence prevention science include informing law enforcement policy makers of best practices for collaborating with single mothers in HCCs to prevent youth gun violence. Implementing these practices can help reduce the loss of life as a result of youth gun violence and reduce the number of youth arrested for gun crimes annually.

**TweetHandle:** Single mothers are a significant yet untapped community resource in the fight against youth gun violence. Pairing single mothers with justice system stakeholders creates a partnership for community safety and true change!

Janay M. Gasparini, PhD

Shepherd University

Shepherdstown, West Virginia

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**0013**

Community-Level Prevention for Child Abuse and Neglect

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**Abstract:** One in eight children is estimated to experience child abuse and neglect (CAN) before 18 years of age. Ohio has a drug overdose death rate nearly twice that of the United States (19.8 per 100,000). Prior research demonstrates that parents who misuse substances are more likely to engage in abusive and neglectful parenting. However, there is a significant variation in rates of drug overdoses and CAN across neighborhood areas. Therefore, understanding how neighborhood structural characteristics and social processes can impact the relationships between opioid misuse and CAN is pivotal. This study aims to provide a greater understanding of the environmental and social mechanisms that support or hinder maltreating behaviors by caregivers. In the first phase of this study, to analyze the role of opioid overdoses on CAN, Bayesian space-time models were conducted using data from Ohio's Statewide Integrated Child Welfare Information System, naloxone administration data obtained by the Ohio Emergency Medical Services Incident Reporting System, and information on opioid dispensing practices from the Ohio Automated Rx Reporting System. We have selected 16 census block groups in Ohio, that have at least 500 children in them (CBGs), providing equal representation from urban, suburban, rural, and Appalachian communities. Each of the 4 regions contributes 2 CBGs with higher (high risk) and lower (low risk) than model-based CAN rates. In the current phase of this study, we are interviewing caregivers residing in the CBGs and key informants who serve those in the CBGs to discuss neighborhood social processes, resources available to families, their view on the impact of the opioid crisis in the community, their view on parenting practices within the community, and sociodemographic variables. We believe that one way of creating and sustaining safer environments for children is to develop CAN prevention efforts that focus on strengthening neighborhood structures and social processes.

**TweetHandle:** Substance misuse can exacerbate abusive and neglectful parenting; however, there is a geographical variation in rates of drug overdoses and child abuse and neglect. @CIRPatNCH and @OSUCSW intend to better understand how environmental and social mechanisms of a neighborhood area impact maltreating behaviors by caregivers.

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## 0018

Neighborhood Gun Violence is Associated with Increased Mental Health-Related Pediatric Emergency Department Utilization

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**Abstract:** *Statement of Purpose:* Community violence exposure is known to have adverse effects on children's long-term mental health. We aimed to examine the association between episodes of neighborhood gun violence and subsequent acute mental health-related pediatric emergency department (ED) utilization.

*Methods/Approach:* This location-based neighborhood study included children living in Philadelphia, PA who presented to a children's hospital ED from 1/1/2014-12/31/2018. We included children in the study if they had one or more ED visits within 7, 30, and 60 days of a neighborhood shooting and lived within 660 feet (2-3 city blocks) of where the incident occurred. Mental health-related presentations were identified using ED chief complaint data. We used multivariable logistic regression to compare odds of mental health-related ED utilization before and after neighborhood shootings.

*Results:* There were 4,217 episodes of gun violence in the study area from 2014-2018, and 54,465 children living near a shooting had one or more ED visits in the 60 days before or after this shooting. Most of these children were Black (84.5%) and Medicaid-insured (78.2%). After adjusting for age, race, ethnicity, insurance status, and zip code, children residing within 660 feet of an episode of gun violence had greater odds of mental health-related ED presentations in the subsequent 7 days (aOR 1.49, 95% CI, 1.08-2.04), 30 days (aOR 1.25, 95%CI 1.05-1.48), and 60 days (adjusted odds ratio (aOR 1.14 , 95%CI 1.01-1.29). In stratified analyses, this effect was strongest for Black children (7-day aOR 1.52, 95%CI 1.08-2.14) and children ages 11-19 (7-day aOR 1.60, 95%CI 1.08-2.39).

*Conclusions and Significance:* Neighborhood gun violence has immediate adverse effects on children's mental health. Recognizing the potentially triggering event and mitigating these health impacts will require both community-based support for children exposed to violence, and trauma-informed approaches during and after ED visits.

**TweetHandle:** We used linked ED and police dept. data to find that children living within 2-3 blocks of neighborhood gun violence have 1.49 times the odds of presenting to the ED for mental health-related symptoms within 7 days. Both community-based support and trauma-informed care are essential for children exposed to neighborhood violence.

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## 0020

The Impact of Focused Child Passenger Safety (CPS) Education on Pediatric Nurses' Knowledge of CPS

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**Abstract: Introduction/Significance** Motor vehicle traffic crashes are one of the top mechanisms of injury for children in New York City and throughout the United States. The American Academy of Pediatrics (AAP, 2019) encourages hospitals to provide child passenger safety (CPS) programming and resources to ensure that children are being transported safely upon discharge. Literature shows that implementing a CPS education program in pediatric hospitals is an effective way to decrease car seat misuse. Although discharge education is recommended, there is a lack of literature to show the knowledge level of nurses who provide this education. The purpose of this study is to determine the CPS knowledge level of RNs before and after an educational session given by a Certified Child

Passenger Safety Technician Instructor.

**Methods** 133 RNs in the Neonatal ICU, Pediatric ICU, General Pediatric Unit, and Mother-Baby Unit in a hospital in New York City participated. Pre/post-test design was used. A demographic questionnaire and an 11 question pre/post-test was given. A 30-minute education session on CPS was given by a Certified Child Passenger Safety Technician Instructor to all RNs.

**Results** There was a significant increase ( $p < 0.0001$ ) in child passenger safety confidence and knowledge level in participating RNs after a 30-minute modular educational session, as evidenced by post-test scores.

**Conclusion** Appropriate knowledge of CPS is essential for RNs when they are expected to provide discharge education to caregivers. The results of this study support providing formal CPS education to all RNs working in pediatric hospitals.

**TweetHandle:**

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0021

### **The Impact of Exposure to War-Related Violence and Post-Migration Living Difficulties on Neuropsychiatric Morbidity: The Case of Syrian Refugees in Lebanon**

S Al-Hajj<sup>1</sup>, W El Sheikh<sup>1</sup>, H Abou Abbas<sup>1</sup>, S Mondello<sup>2</sup>, H Harati<sup>3</sup>, F Kobeissy<sup>1</sup>

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**Abstract:**

#### **Statement of Purpose**

Violence adversely impact individuals' mental health and contribute to the development of neuropsychiatric disorders. This study aims to assess the psychological state of the Syrian refugee population exposed to war-related violence and analyze their association with neuropsychiatric morbidity.

#### **Methods/Approach**

In 2017, a refugee cohort in Lebanon completed the Harvard Trauma Questionnaire (HTQ), Post-Migration Living Difficulties Checklist (PMLDC), Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5), and the Depression and Anxiety Scale-21 Items (DAS-21). We performed multivariable logistic regressions to examine potential factors associated with long-term neuropsychiatric

disorders.

## Results

Of the 220 refugees, 191 were eligible to participate, of whom 92.15% were exposed to at least one war-related violence. As for the neuropsychiatric morbidity, 64% met the cut-off point for PTSD diagnosis, while 62.8% and 64.4% suffered from moderate to extremely severe depression and anxiety, respectively. We identified war-related violence as the strongest predictor of PTSD (adjusted [OR] 1.16, 95% CI 1.07 – 1.26;  $p = .001$ ) and of severe and extremely severe depression (OR 1.21, 95% CI 1.05 – 1.39;  $p < .01$ ). Only higher anxiety levels were associated with post-migration living difficulties (OR 1.03, 95% CI 1.01 – 1.05;  $p < .0001$ ). While lower educational attainment was a significant risk factor for all three neuropsychiatric disorders, being a male was a significant protective factor for both depression (OR .19, 95% CI .04 – .96;  $p < .05$ ) and anxiety (OR .35, 95% CI .15 – .85;  $p < .05$ ).

## Conclusions

War-related violence constitutes a major risk factor for multiple neuropsychiatric. Identified prognostic factors include post-migration living difficulties, educational attainment, and gender.

## Significance and Contributions to Injury and Violence Prevention Sciences

This study highlights the adverse impact of violence on individuals. Generated evidence should be adopted to develop and implement tailored psychological programs targeting refugees and displaced individuals.

**TweetHandle:** @DrSamarHajj

This study highlights the adverse impact of violence on refugees. Generated evidence can be adopted to develop and implement tailored psychological outreach programs targeting refugees and displaced individuals.

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## 0022

#StayAtHomeSafety Campaign to Prevent Home-Related Injuries Due to COVID-19

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**Abstract: Statement of Purpose**



Prevent Child Injury launched the #StayAtHomeSafety campaign on March 25th, 2020 in response to the COVID-19 pandemic with the goal of increasing awareness of child injuries that occur in and around the home, as families were spending more time at home due to directives to shelter in place and socially distance.

### **Approach**

The campaign included a Twitter chat and a frequently updated page on the Prevent Child Injury website that served as a hub for home safety and COVID-19 information. Before the event, we called upon individuals and organizations (American Academy of Pediatrics, Parents Magazine, Safe Kids Worldwide, and more) to participate in spreading awareness of the campaign and taking part in the Twitter chat.

### **Results**

The #StayAtHomeSafety Twitter chat resulted in 336 contributors, 999 tweets with a reach of more than 6.2 million and more than 18.3 million timeline deliveries. The COVID-19 webpage on the Prevent Child Injury website has over 2,000 pageviews.

### **Conclusions**

In less than a week, nearly 20 organizations and 8 poison centers signed on to become partners of the campaign by promoting the materials to their networks, creating their own #StayAtHomeSafety materials, and participating in the Twitter chat. The hashtag continues to be used with 500+ new contributors, writing 1000+ tweets reaching 2 million more people and 4.2 million more timeline deliveries.

### **Contributions to Injury and Violence Prevention Science**

With schools, businesses, and public places closing in late March 2020, children spent more time in the home under circumstances that included altered routines, gaps in supervision, and parental stress. These conditions put children at increased risk for injury in the home. #StayAtHomeSafety focused on protecting children from preventable injuries and helped parents and caregivers understand why preventing injury is especially important in the midst of a national emergency.

**TweetHandle:** Attend #SAVIR2021 conference to learn about how @PreventChildInj gathered an impressive group of organizations and launched the @StayAtHomeSafety campaign at the start of the #COVID19 pandemic to raise #awareness about preventable home-related child injuries.

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**0023**

Multidisciplinary Data-Sharing for Community Violence Prevention: Shifting Power to the Community

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<sup>1</sup> Medical College of Wisconsin, Milwaukee, The United States Minor Outlying Islands <sup>2</sup> Medical College of Wisconsin, Milwaukee, The United States of America <sup>3</sup> Medical College of Wisconsin, Milwaukee, The United States of America <sup>4</sup> Sojourner Family Peace Center, Milwaukee, The United States of America <sup>5</sup> City of Milwaukee Health Department, Milwaukee, The United States of America

**Abstract: Statement of Purpose:** In order to inform community-based violence prevention strategies, community organizations and public health agencies are often forced to rely on data that are significantly lagged or incomplete. Near real-time data is critical for timely public health responses to violence prevention. This project brings together multiple organizations currently gathering data on community violence to collaborate sharing community-facing data in near real-time to strengthen violence prevention programs and policies. The overall goal of this project is to reduce assaultive violence and enhance neighborhood/community safety.

**Approach:** The Comprehensive Injury Center at the Medical College of Wisconsin (CIC-MCW) serves as the convening body for this interagency collaborative. At present, the data collected include emergency department data on assaults, hospital-partnered, community-based violence interruption program data, the city's Homicide Review Commission's homicide and non-fatal shooting data, data from a community-based organization that serves survivors of domestic violence, and Milwaukee County Medical Examiner data.

**Results:** This interagency collaborative has completed short-term projects, including developing a summary of assaults, non-fatal shootings, and homicides for review by the community. Additionally, this collaborative is submitting a proposal for funding to develop a real-time, community-facing data dashboard that will combine the various data sources and put data directly into the hands of the public. These data sources and their utility to the community will be presented.

**Conclusion:** Community organizations implementing violence prevention strategies often do not have access to real-time comprehensive information necessary to develop, implement, and evaluate programs and policies. This project shifts the power of data access from traditional entities to community groups that have expertise in necessary community interventions.

**Contribution to Injury and Prevention Science:** This project demonstrates how multiple stakeholders can come together to better understand the burden of violence while facilitating access to real-time data for community-based violence prevention response and planning.

**TweetHandle:** The Comprehensive Injury Center at the Medical College of Wisconsin (@cicatmcw) is convening a multidisciplinary group to share data to inform community violence prevention efforts. Check out their session at SAVIR to hear about the plan for putting the power of data back into the community!

## **Feasibility and acceptability of telemedicine and patient portal interventions to prevent opioid misuse in adolescents and young adults**

E Bonar<sup>1</sup>, A Bohnert<sup>1</sup>, P Carter<sup>1</sup>, S Clark<sup>1</sup>, K Kidwell<sup>1</sup>, C King<sup>1</sup>, E Losman<sup>1</sup>, S McCabe<sup>1</sup>, L Prosser<sup>1</sup>, M Walton<sup>1</sup>

<sup>1</sup> *University of Michigan, Ann Arbor, The United States of America*

**Abstract: Purpose:** Preventing opioid misuse and opioid use disorder (OUD) is necessary given the opioid epidemic. Prevention programs for adolescents/young adults are needed to alter risk trajectories. We developed interventions using telemedicine (synchronous video conference) and a patient portal-like messaging system to address risk factors for opioid misuse/OUD among young Emergency Department (ED) patients. Our presentation describes these promising interventions and their feasibility and acceptability.

**Methods/Approach:** In Spring 2020, N = 40 ED patients ages 16-30 who were at risk for opioid misuse/OUD enrolled in a pilot trial involving screening/baseline assessments, motivational interviewing-based remote interventions (baseline telemedicine brief intervention [BI], 1-month of portal messaging), and a 1-month follow-up. Before COVID-19, N = 10 enrolled in the ED (in-person cohort: IPC); during COVID-19, N = 30 recent ED patients enrolled via phone recruitment (remote cohort: RC). Feasibility data are presented by cohort; acceptability data are combined.

**Results:** Among the N=40, the sample had a mean age of 22.9 years. Gender was: 70% female, 5% non-conforming, 25% male. Race was: 75% White, 15% Black/African American, and 10% other racial identities; 17.5% were Hispanic/Latinx. Regarding feasibility, eligibility rates were similar (IPC: 17%, RC: 15%); consenting rates differed (IPC: 100%, RC: 56%), likely due to the RC's telephone approach. Portal engagement increased from the IPC (60%) to the RC (93%), possibly due to addressing technical difficulties and IPC user feedback. BI and portal satisfaction were high (M = 9.3 on a 1-10 scale and M = 8.5, respectively). Interventions exceeded motivational interviewing fidelity thresholds (adapted for portal messaging). Follow-up rates were high (IPC: 80%, RC: 93%).

**Significance/Contribution:** Preventing opioid misuse is critical to avoiding escalation of opioid use and overdoses, and emergency department patients are at increased risk. This study demonstrates the feasibility and acceptability of these intervention approaches via telemedicine for preventing future injuries.

**TweetHandle:** @erinbphd and team @umichmedicine discuss telemedicine behavioral interventions to prevent opioid misuse in adolescents and young adults

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0025

**Pattern of Adverse Family Experiences from Early Childhood to Adolescence: A Latent Class Analysis**

F Dong<sup>1</sup>

<sup>1</sup> *University of Pennsylvania, Philadelphia, The United States of America*

**Abstract:** State of Purpose: Adverse family experiences (AFEs) are common throughout early childhood to adolescence, which are detrimental to the long-term trajectories of individuals' mental health. AFEs are likely to co-occur, while few studies have examined distinct patterns of co-occurring AFEs in the different age groups of children. Methods: Participants were from the National Survey of Children Health in 2016, 2017, and 2018, the current study conducted the latent class analysis to identify subgroups of children who had experienced multiple forms of AFEs among three developmental stages: 1–5 (preschool), 6–11 (school-age), and 12–17 years-old (adolescents) in each year and also comparing if these subgroups are stable across the three years. Results: In 2016, three latent classes were identified for preschool children, with 85.02% in low AFEs, 13.24% in moderate household dysfunction(MHD, characterized with high economic hardship and parental separation), 1.73% in high AFEs; Four latent classes were identified for both school-aged children, with 77.36% in low AFEs, 15.35% in MHD, 3.37% in severe household dysfunction (SHD, characterized with high economic hardship and parental separation, household mental illness and substance use), and 3.92% high AFEs; Four latent classes were also identified for adolescents, with 72.21% in low AFEs, 15.05% in MHD, 8.28% in SHD, and 4.46% high AFEs. Similar patterns were found in preschool, school-age children, and adolescents in both 2017 and 2018. Conclusion: The class "low AFEs" is the smallest proportion in the adolescent population which indicates the experiences of AFEs are growing with age. The findings indicate distinct classes of adversity experienced among children are somewhat stable across developmental periods and across years. Significance and contribution to injury and violence prevention science: The findings call for comprehensive screening as well as tailored intervention for these patterns in order to improve health outcomes.

**TweetHandle:** Latent classes of adverse family experiences are stable across years from early childhood to adolescence.

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0026

**Saving Lives Beyond 2020 - The Next Steps; Recommendations of the Academic Expert Group for the 3<sup>rd</sup> Global Ministerial Conference on Road Safety**

J Michael<sup>1</sup>

<sup>1</sup> *Johns Hopkins Center for Injury Research and Policy , Baltimore, The United States of America*

**Abstract:**

**1. Statement of Purpose**

An Academic Expert Group (AEG) was established by the Swedish Transport Administration to develop recommendations for progress in global road safety between 2021 and 2030. The output of the AEG was intended to shape the agenda for the United Nations 3<sup>rd</sup> Ministerial Conference on Road Safety held in Stockholm, Sweden in February 2020. A Declaration from that conference subsequently shaped a United Nations General Assembly Resolution on Global Road Safety (A/74/L.86).

## **2. Methods/Approach**

An expert opinion method was used to capture the scope of knowledge and experience of fifteen international road safety authorities. The recommendations were developed iteratively over a period of ten months, including three multi-day meetings and extensive review and comment.

## **3. Results**

Nine recommendations were developed along with supporting rationale. Recommendations focus on priority populations such as children and youth, effective intervention strategies including reducing speed and utilizing advanced technology, and promising techniques such as the Safe System approach and engagement of the private sector.

## **4. Conclusions**

The AEG describes an evolution of road safety strategies beginning with the basic components of Engineering, Education, Enforcement, Emergency Services, and leading to incorporation of the Safe System approach. A higher level of development is proposed consisting of integration of road safety practices in other social movements, such as climate change, gender equity and active lifestyles.

## **5. Significance and Contributions to Injury and Violence Prevention Science**

The recommendations and rationale in the report will shape additional guidance documents coming from the United Nations system, including an implementation agenda now being developed by the World Health Organization in consultation with the United Nations Economic Commission for Europe Global Forum for Road Traffic Safety. Governments, philanthropic organizations and safety activists around the world use these guidance documents to inform decisions about road safety priorities, strategies, investments and targets.

**TweetHandle:** Each day, 3,700 people die in road crashes. Read how international experts say the problem can be solved. [https://www.jhsph.edu/research/centers-and-institutes/johns-hopkins-center-for-injury-research-and-policy/\\_documents/publications-resources/Saving%20Lives%20Beyond%202020.pdf](https://www.jhsph.edu/research/centers-and-institutes/johns-hopkins-center-for-injury-research-and-policy/_documents/publications-resources/Saving%20Lives%20Beyond%202020.pdf) @JohnsHpkinsCIRP

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0027

Extreme Risk Protection Orders: Understanding the Role of Health Professionals

K Conrick<sup>1,2</sup>, A Davis<sup>3</sup>, L Rooney<sup>2</sup>, MA Bellenger<sup>2</sup>, FP Rivara<sup>2,4</sup>, A Rowhani-Rahbar<sup>2,5</sup>, M Moore<sup>2,3</sup>

<sup>1</sup> *University of Washington, Seattle, The United States of America* <sup>2</sup> *Harborview Injury Prevention and Research Center, Seattle, The United States of America* <sup>3</sup> *University of Washington, Seattle, The United States of America* <sup>4</sup> *Seattle Children's Hospital, Seattle, The United States of America* <sup>5</sup> *University of Washington, Seattle, The United States of America*

**Abstract: Purpose:** Extreme Risk Protection Orders (ERPO) allow a petitioner to file for a civil order to temporarily reduce access to firearms among individuals (“respondents”) at extreme risk of harming themselves, others, or both. Although unable to file ERPOs themselves in most states, social workers, and mental health and healthcare providers may play a pivotal role in the ERPO process by recommending a petitioner (e.g. family member or law enforcement) initiate the process. We describe the process of filing an ERPO when a healthcare, mental health, or social service professional contacts an ERPO petitioner in a state where they cannot file themselves.

**Methods:** Court documents of 24 ERPO respondents in Washington State between December 8<sup>th</sup>, 2016 and May 10<sup>th</sup>, 2019 were qualitatively analyzed. We constructed pen portraits from the documents and analyzed them using an inductive qualitative thematic approach informed by grounded theory and constant comparative method. Member checking with mental health professionals and law enforcement officers complemented findings.

**Results:** Respondents were deemed extreme risk of harm to themselves (n=10), others (n=5), or both (n=9). Professionals included respondents’ established mental health providers (n=11), crisis line workers (n=7), and medical staff in emergency settings (n=6). Themes included factors influencing the *process* by which each professional evaluated dangerous behaviors, *factors considered* during assessment, and factors influencing *interpretation of behaviors* of the respondent during a crisis. These in turn influenced the *outcome* of the crisis event that led to an ERPO being filed.

**Conclusions:** Each professional group differed in their approach to risk assessment of potentially dangerous behaviors. Strategies to better coordinate and align approaches may increase the effectiveness and reach of ERPO.

**Significance:** Understanding the process by which a threatening behavior reported to a health professional leads to an ERPO filing may identify process improvements crucial to ensuring reducing access to firearms.

**TweetHandle:** Researchers @hiprc investigate how health professionals, including social workers and mental health providers, navigate the Extreme Risk Protection Order (ERPO) process in a state where they cannot file ERPOs themselves.

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0028

## **Methamphetamine Exposures Reported to United States Poison Control Centers, 2000-2019**

T CHEN<sup>1,2</sup>, H Spiller<sup>3,4</sup>, J Badeti<sup>1</sup>, A Funk<sup>4</sup>, M Zhu<sup>1,3</sup>, G Smith<sup>1,3,5</sup>

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**Abstract: Statement of Purpose:** To investigate characteristics and trends of methamphetamine exposures reported to United States (US) poison control centers.

**Methods/Approach:** Data from the National Poison Data System were analyzed to investigate exposures to methamphetamine.

**Results:** From January 1, 2000 through December 31, 2019, US poison control centers managed 54,199 cases involving methamphetamine as the first-ranked substance. Adults 20-39 years old accounted for more than half (56.3%) of all cases. There were 1,291 deaths, of which 43.0% involved multiple-substance exposures. Among multiple-substance exposures in which methamphetamine was the first-ranked substance, stimulants and street drugs (excluding methamphetamine) were most commonly present (22.7%), followed by opioids (19.0%). The substance class associated with the most fatalities was opioids (n=243, 26.6%). The rate of methamphetamine exposures per 100,000 US population increased by 79.5% from 2000-2005, then decreased by 68.0% from 2005-2007, followed by an increase of 614.6% from 2007-2019. From 2007-2019, the rate significantly increased among all age groups, except among 6-12-year-olds, and in all US regions. The rates of single-substance and multiple-substance exposures increased significantly from 2007-2019 by 456.7% ( $p < 0.0001$ ) and 843.6% ( $p < 0.0001$ ), respectively. From 2007-2019, the proportions of cases resulting in admission to a health care facility and serious medical outcome increased by 38.6% and 55.2%, respectively, and the fatality rate increased by 492.3%.

**Conclusions:** The rate of exposure to methamphetamine in the US declined initially following passage of the Combat Methamphetamine Epidemic Act of 2005. However, since 2007, the rate and severity of methamphetamine exposures in the US have increased.

**Significance and Contributions to Injury and Violence Prevention Science:** This is the first study to analyze methamphetamine exposures among all age groups over an extensive time period in the US. The findings from this study can help inform future prevention, monitoring, and research efforts.

**TweetHandle:** After a transient decline in the rate of #methamphetamine exposures following the passage of the 2005 Combat Methamphetamine Epidemic Act, the rate and severity of methamphetamine exposures are now back on the rise in the United States.

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0030

Assessing Suicide Mechanisms by Geographic Division, Urbanization, Sex, Race/Ethnicity, and Age – United States 2004-2018

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<sup>1</sup> Centers for Disease Control and Prevention, Atlanta, The United States of America

**Abstract: Statement of Purpose:** We assessed suicide rates by mechanism within geographic divisions by urbanicity, age, race/ethnicity and sex to inform targeted approaches for suicide prevention strategies. We addressed health equity by highlighting potential disparities and differences between and within demographics, geographic divisions and urbanization levels.

**Methods/Approach:** We will conduct temporal trend analysis using population-based mortality data from the National Vital Statistics System between 2004 and 2018 to estimate trends in suicide rates. We will tabulate national annual counts of suicide deaths among U.S. residents, by injury mechanism, stratified by Census Divisions, 2013 NCHS urban-rural classification scheme for counties, age, race/ethnicity, and sex.

**Results:** In preliminary analysis using CDC WONDER we found certain mechanisms of suicide increasing. We found females had statistically significant higher crude rates of suicide by suffocation than by firearm in large central metro areas in New England (1.3; 0.3) and Middle Atlantic (1.2; 0.3) and in large fringe metro areas in New England (1.6; 0.4) and Middle Atlantic (1.3; 0.6). Males had statistically significant higher crude rates of suicide by suffocation than by firearm in large central metro areas in New England (6.0; 3.7) and Middle Atlantic (4.2;3.5) and in large fringe metro areas in New England (6.4; 4.3). Suicide rates by firearm are highest in most other geographic and urbanization areas for sex. Further analyses will highlight trends in suicide rates by mechanism and by sex, age, race/ethnicity within geographic areas and urbanicity to elucidate differences between and within demographic groups.

**Conclusions:** Results may inform suicide prevention strategies for different populations based on overlapping demographics, geographic areas and urbanicity.

**Significance and Contributions to Injury and Violence Prevention Science:** Using a health equity lens, we will provide nuanced suicide data needed for a multifaceted approach to inform suicide prevention strategies in the US.

**TweetHandle:** How people die by suicide may be related to the complex interaction of their sex, age, and where they live. Highlighting these suicide trends may inform the development of targeted suicide prevention strategies for critical populations.

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0031

Ridesharing Trips and Alcohol-Involved Motor Vehicle Crashes

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<sup>1</sup> Columbia University, New York, The United States of America <sup>2</sup> Columbia University, New York, The United States of America

**Abstract: Statement of Purpose.** Rideshare companies such as Uber and Lyft have facilitated over 20 billion trips worldwide since the technology launched in 2010. Ridesharing could theoretically reduce alcohol-involved motor vehicle crashes by replacing drunk driver trips.

**Methods/Approach.** This case control study used highly spatially and temporally resolved trip-level rideshare data and motor vehicle crash data for Chicago from November 2018 to December 2019. The units of analysis were motor vehicle crashes in the city of Chicago. Cases were crashes that police indicated were alcohol-involved. Controls were crashes in the same census tract, matched 1:1. The exposure of interest was the density per square mile of rideshare trips that were in progress at the time of the crash, calculated using a kernel density function around active trip route lines. Control variables were taxi trip density, time of day, day of week, public holiday, temperature, precipitation, and month. A conditional logistic regression compared alcohol-involvement to rideshare trip density.

**Results.** There were 962 alcohol-involved motor vehicle crashes and 118,913,157 rideshare trips during the fourteen-month study period. Rideshare trip density was 69.0 per square mile at the location of case crashes and 105.7 per square mile at the location of control crashes. After controlling for covariates, the conditional logistic regression model identified that an increase of 1 rideshare trip per square mile at the crash site was associated with 0.2% decreased odds that the crash was alcohol involved (OR = 0.998; 95%CI: 0.996, 0.999). There was no association for taxi trips.

**Conclusions.** Increased ridesharing activity was associated with decreased risks that motor vehicle crashes were alcohol involved.

**Significance and Contributions to Injury and Violence Prevention Science.** Over 10,000 people die in alcohol involved motor-vehicle crashes annually. Rideshare trips may replace drunk driver trips, thereby reducing the considerable injury burden due to alcohol-involved crashes.

**TweetHandle:** Uber and Lyft trips reduce drunk driver crashes in Chicago -- new research from Chris Morrison @CUEpidemiology

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0032

## The Impact of Exposure to War-Related Violence and Post-Migration Living Difficulties on Neuropsychiatric Morbidity: The Case of Syrian Refugees in Lebanon

S Al-Hajj<sup>1</sup>, H Abou Abbas<sup>2</sup>, W El Sheik<sup>1</sup>, S Mondello<sup>3</sup>, H Harati<sup>2</sup>, F Kobeissy<sup>1</sup>

<sup>1</sup> American University of Beirut, Beirut, Lebanon <sup>2</sup> Lebanese University, Beirut, Lebanon <sup>3</sup> University of Messina, Milano, Italy

### Abstract:

**Statement of Purpose:** Violence adversely impacts individuals' mental health and contributes to the development of neuropsychiatric disorders. This study aims to assess the psychological state of the Syrian refugee population exposed to war-related violence and analyze its association with the risk of neuropsychiatric morbidity.

**Methods/Approach:** A refugee cohort in Lebanon completed the Harvard Trauma Questionnaire (HTQ), Post-Migration Living Difficulties Checklist (PMLDC), Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5), and the Depression and Anxiety Scale-21 Items (DAS-21). We performed multivariable logistic regressions to examine potential factors associated with long-term neuropsychiatric disorders.

**Results:** Of the 220 refugees, 191 were eligible to participate, of whom 92.15% were exposed to at least one war-related violence. As for the neuropsychiatric morbidity, 64% met the cut-off point for PTSD diagnosis, while 62.8% and 64.4% suffered from moderate to extremely severe depression and anxiety, respectively. We identified violence as the strongest predictor of PTSD (adjusted [OR] 1.16, 95% CI 1.07 – 1.26;  $p = .001$ ) and of severe and extremely severe depression (OR 1.21, 95% CI 1.05 – 1.39;  $p < .01$ ). Only higher anxiety levels were associated with post-migration living difficulties (OR 1.03, 95% CI 1.01 – 1.05;  $p < .0001$ ). While lower educational attainment was a significant risk factor for all three neuropsychiatric disorders, being a male was a significant protective factor for depression (OR .19, 95% CI .04 – .96;  $p < .05$ ) and anxiety (OR .35, 95% CI .15 – .85;  $p < .05$ ).

**Conclusions:** War-related violence constitutes a major risk factor for multiple neuropsychiatric. Identified prognostic factors include post-migration living difficulties, educational attainment, and gender.

**Significance and Contributions to Injury and Violence Prevention Sciences:** This study highlights the adverse impact of violence on individuals. Generated evidence can be adopted to develop and implement tailored psychological outreach programs targeting refugees and displaced individuals.

**TweetHandle:** War-related violence constitutes a major risk factor for multiple neuropsychiatric disorder and the strongest predictor of PTSD and depression among refugee communities in Lebanon.

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0033

Using social media to disseminate injury prevention content: Is a picture worth a thousand words?

K Roberts<sup>1</sup>, R McAdams<sup>1</sup>, E Klein<sup>2</sup>, J Manganello<sup>3</sup>, L McKenzie<sup>1,4</sup>

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**Abstract:** Objective: Social media (SM) is ubiquitous and offers an opportunity to disseminate reliable and accurate safety recommendations to parents who are frequent social media users, yet little is known about the reach and impact of these messages on safety knowledge and behavior adoption.

Methods: Parents of children (<7 years) were recruited from a nationally representative online survey panel to complete a survey assessing their Internet and SM usage, eHealth literacy level, and to gather their reactions to SM posts on three safety topics (safe sleep, bike safety, and poison prevention). Two social posts contained a photo that did not match recommended safety behaviors in the text (safe sleep and poison prevention), and one post contained a photo that did match with the recommended safety behavior (bike safety). The eHealth Literacy Scale (eHEALS) was used to measure the parent's eHealth literacy; low eHealth literacy was defined as eHEALS score <26.

Results: A total of 580 parents completed the survey. Most were female (58.6%) with high eHealth literacy (84.5%). Low eHealth literate parents used SM more frequently than high eHealth literate parents for safety information ( $p < .0001$ ). Compared to low eHealth literate parents, a larger proportion of high eHealth literate parents correctly identified the mismatched posts (safe sleep:  $p = .0081$ ; poison prevention:  $p = .0052$ ). A larger proportion of high eHealth literate parents correctly identified the matched post for bike safety ( $p = .7022$ ).

Conclusion: Injury professionals can use SM to create and share reliable and accurate injury prevention information to large, global audiences. Using matching imagery and text helps to facilitate parental understanding of safety recommendations, regardless of eHealth literacy level of the audience. Identifying gaps in the content of SM messaging and parental understanding of messages will allow injury professionals to create and disseminate safety information to more effectively facilitate parental understanding of recommendations.

**TweetHandle:** #Injury professionals using social media to create & share reliable and accurate messages to audiences should use matching imagery and text. Helps to facilitate parents'

understanding of safety recs, regardless of their #HealthLiteracy level.

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## 0034

Using content analysis and eye-tracking to understand injury prevention content dissemination on social media

R McAdams<sup>1</sup>, K Roberts<sup>2</sup>, E Klein<sup>3</sup>, J Manganello<sup>4</sup>, L McKenzie<sup>5, 6, 7</sup>

<sup>1</sup> Abigail Wexner Research Institute at Nationwide Children's Hospital, Columbus, The United States of America <sup>2</sup> Center for Injury Research and Policy in The Abigail Wexner Research Institute at Nationwide Children's Hospital, Columbus, The United States of America <sup>3</sup> Division of Health Behavior & Health Promotion, The Ohio State University, College of Public Health, Columbus, The United States of America <sup>4</sup> Department of Health Policy, Management, and Behavior, University at Albany, School of Public Health, Rensselaer, The United States of America <sup>5</sup> Center for Injury Research and Policy, Abigail Wexner Research Institute, Nationwide Children's Hospital, Columbus, The United States of America <sup>6</sup> Department of Pediatrics, The Ohio State University, College of Medicine, Columbus, The United States of America <sup>7</sup> Division of Epidemiology, The Ohio State University, College of Public Health, Columbus, The United States of America

**Abstract: Purpose:**We will provide information on two study branches: content analysis, showing the frequency and content of injury prevention social posts from key disseminating organizations, and eye tracking experiment, examining the textual and pictorial factors of social posts that influence visual attention and safety behaviors among parents of young children.

**Methods:**First, we conducted a quantitative content analysis (May 2018-April 2019) of Instagram posts from 22 key pediatric injury organizations. Next, parents (n=150) of young children (<7 years) completed an eye-tracking experiment, where they were exposed to six posts, three with imagery that matched the textual information explaining the recommended safety information (concordant) and three with imagery that did not (discordant). We examined the proportion of dwell time spent on textual and pictorial areas. We applied generalized estimating equation regressions to examine the relationship between concordant imagery and visual attention, accounting for frequency of social use and health literacy (Newest Vital Sign).

**Results:**A total of 4,598 posts were analyzed, of which 754 had a pediatric injury focus. Pediatric injury content was posted in 54% of posts from pediatric injury organizations. More posts had images than videos, but videos were more likely to show safety recommendations. Participants spent an average of 5.3 seconds on the concordant image posts compared to 3.3 seconds on the discordant image posts (p<0.001). Each second of viewing time on concordant posts was associated with a 2.8% increase in safety information knowledge (p<0.001).

**Conclusion:**Visual attention to posts with recommended safety behaviors attracted significantly higher visual attention and resulted in an increased recognition/identification of the optimal safety

actions.

**Significance:** Identifying gaps in social media messaging and understanding how parents view these messages allows us to provide recommendations for injury prevention organizations to more effectively design and disseminate child injury prevention messages to local and global audiences.

**TweetHandle:** Visual attn to msgs w/recommended safety behaviors attracted higher visual attn & resulted in increased recognition/ID of optimal safety actions. Allows us to provide recs for #InjuryPrevention orgs to more effectively design & disseminate #ChildInjuryPrevention msgs.

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## 0035

Ride Safe Reboot

K Pink<sup>1</sup>, I Ampadu<sup>2</sup>, A Tsatoke<sup>3</sup>, M Stephens<sup>4</sup>, R Morones<sup>5</sup>

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**Abstract:** Statement of Purpose:

The goal of the Ride Safe Pilot Program is to reduce motor vehicle crash (MVC) injuries among American Indian/Alaskan Native (AI/AN) children by promoting child safety seat use. Initially developed in 2003, the Ride Safe Pilot Program was revised and implemented in collaboration with tribal partners and the Phoenix Area Indian Health Service Division of Environmental Health.

Methods/Approach:

The Ride Safe Program utilizes a community-based approach coupled with the following to achieve its goal: 1.) Distribution of a child passenger safety (CPS) curriculum tailored for AI/AN communities; 2.) Provision of child safety seats; and 3.) Completion of evaluation activities.

Results:

The program was implemented in six tribal communities in Arizona, California, and Nevada. A total of 657 car seats were acquired and 75% were distributed.

Conclusions:

The pilot project is a promising community-based compliment to evidence-based CPS activities aimed at addressing MVC. At the start of the initiative, a majority of the participating programs had below 50% CPS usage rates; unfortunately due to COVID-19, the sites were not able to collect post

observational data. A positive outcome is the development of the COVID-19 CPS protocol to assist in the next cycle of the pilot program.

Significance and contributions:

In 2017, MVCs were the leading cause of death for AI/AN ages 5-24, with the youngest family members disproportionately affected. These losses are even more tragic because the majority of MVC injuries and deaths are preventable through the proper use of a child safety seat or seatbelt. Ride Safe can be easily replicated in any community to reduce MVC-related injuries among children. This serves as a testimony to the power of simple, well-informed, community-based models intended to reduce MVC injuries among children.

**TweetHandle:** Unable to provide at this time but can get permission if needed.

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**0037**

**Preventing unintentional childhood injuries in Uganda - development of an intervention toolkit.**

P Attwood<sup>1</sup>, C Ssemugabo<sup>2</sup>, B Balugaba<sup>2</sup>, A Mugeere<sup>2</sup>, A Bachani<sup>3</sup>, K Hunter<sup>4</sup>, R Ivers<sup>4</sup>, A Hyder<sup>5</sup>, O Kobusingye<sup>2</sup>, M Peden<sup>1</sup>

<sup>1</sup> *The George Institute for Global Health, Imperial College, London, United Kingdom* <sup>2</sup> *Makerere University School of Public Health, Kampala, Uganda* <sup>3</sup> *Johns Hopkins Bloomberg School of Public Health, Baltimore, The United States of America* <sup>4</sup> *University of New South Wales, Sydney, Australia* <sup>5</sup> *The George Washington University, Washington DC, The United States of America*

**Abstract:** Statement of Purpose: Globally, thousands of children lose their lives to unintentional injuries every year. Injuries occurring at home to under 5s (burns, falls, poisoning) can be prevented through providing safety equipment e.g. barriers and childproof containers. Although a number of studies have shown significant reductions in child injuries most have been conducted in high-income countries. This research aims to reduce unintentional home injuries among under 5's in Jinja, Uganda through the provision of a toolkit.

**Methods:** This study is guided by a community-based participatory research approach utilizing mixed methods. A quantitative retrospective review of hospital data was combined with a community-based household survey and risk assessment tool to provide incidence and risk factor data. An exploration of perceptions of injuries, risky behaviours and practices in the home was provided through focus-group discussions and Photovoice.

**Results:** Preliminary analysis of ongoing data collection has been done. Hospital record review of 225 cases revealed that 34% of injuries were due to burns, 45% were seen in outpatients and 39% admitted to the wards. The survey of 615 households indicated that there had been 879 injury events amongst under 5s in the preceding 12 months. The majority occurred within the compound of the home (57% fall-related ; 23% burn injuries). From the qualitative exploration, falling in pits, open

fireplaces and off beds were the major causes of injuries.

**Conclusion:** This formative research contextualises the problem and looks to propose an intervention toolkit including educational material, parent training workshops, awareness campaigns, home visits and environmental modifications. The findings will inform the development of a culturally appropriate/affordable set of interventions and provide accurate incidence rates for a future intervention trial.

**Significance:** The results will have significant implications for low-income countries in terms of research methodology and effective information in mitigating injuries among under 5s.

**TweetHandle:**

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**0038**

Patterns of Nonfatal Gun Use in Intimate Partner Violence: Evidence from Protective Order Casefiles

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<sup>1</sup> *University of North Carolina - Gillings, Chapel Hill, The United States of America*

**Abstract: Statement of Purpose:** In the context of intimate partner violence (IPV), perpetrators may use guns to injure, scare, and/or manipulate their partner. Gun threats are associated with increased PTSD symptom severity, sleep loss, and heightened fear among IPV survivors. Gun threats are also an indicator for homicide risk. Despite the negative consequences associated with gun related IPV, little research documents the prevalence and nature of these nonfatal behaviors. Fortunately, state and federal law restrict gun access for IPV perpetrators in qualifying domestic violence protective order (DVPO) cases. Using data from DVPO cases, we sought to document the extent to which perpetrators (DVPO defendants) engage in gun related IPV. **Methods:** We used observational data from DVPO casefiles and hearings that were collected for the CASE IPV study, a North Carolina-based project that used a representative sampling strategy to examine civil protective order processes and outcomes. **Results:** In our sample (n= 406), there was evidence of gun related IPV in one out of four cases (n=101, 25.6%). Specifically, perpetrators had verbally threatened to harm their partner with a gun (22%, n=84), displayed or discharged a gun in a threatening manner (10%, n=42), or physically used a gun to shoot at or hit a survivor in (0.6%, n=3). More severe abuse (including physical abuse, sexual abuse, stalking, etc.) was associated with increased odds of gun related IPV (OR = 2.01, 95% CI: 1.5, 2.7), controlling for defendant age, race, county rurality, and marital status. **Conclusions:** Survivors of IPV who seek protective orders experience high levels of violence, and the incidence of gun related IPV in this sample was disturbingly common. Furthermore, gun related IPV co-occurs with other severe abusive behaviors. **Implications:** We must ensure that existing legal mechanisms to restrict abuser access to firearms for DVPO cases are properly implemented and enforced.

**TweetHandle:** One out of four survivors of intimate partner violence (IPV) who seek restraining orders have experienced gun-related threats or abuse. Gun IPV co-occurs with other severe abusive behaviors (e.g. physical violence, stalking), and restricting abuser access to firearms is critical to

ensuring survivor safety.

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**0039**

Do mothers with healthier lifestyles maintain safer home environment for their toddlers?

D&R Shapira<sup>1</sup>, (Y Zisk Rony<sup>1</sup>, S Shimony Kanat<sup>1</sup>

<sup>1</sup> *Hadassah Hebrew University, Jerusalem, Israel*

**Abstract:**

Statement of Purpose:

The home is a primary setting for toddlers' injuries. Home safety and characteristics of a family's daily life have scarcely been studied. This study aimed to examine the association between a safe home environment for toddlers and the variables in their mothers' daily healthy lifestyle.

Methods:

This was a cross-sectional study, during 2019 in Israel. Mothers of toddlers aged 1-4 years old (n=100) completed a questionnaire, including a safe home checklist (BETEREM), a healthy lifestyle questionnaire (HLPCQ), and socio-demographic information. Questionnaires were collected through two community mother-child enrichment centers.

Results:

Mothers reported having a moderately safe home environment and low daily health habits (mean 58.9, 34.1 respectively on 0-100 scale). Mothers with higher safe home environment score reported less child injuries at home ( $p<0.01$ ); additionally, mothers with higher healthy lifestyle score reported less child injuries at home ( $p<0.01$ ). Safe home environment score is positively associated with mothers' daily healthy lifestyle score ( $r=0.791$ ,  $p<0.01$ ). A hierarchical regression demonstrated that of the five HLPCQ scales, mental balance predicted 79% of home safety; moreover, a mother's religious definition predicted 7% ( $p<0.05$ ).

Conclusion:

Home safety is associated with mothers' daily healthy lifestyle. To promote child home safety there is a need to further study differences in parents' and in families' daily healthy lifestyle in diverse populations.

Significance and Contributions to Injury and Violence Prevention Science



Home safety interventions for parents of toddlers need to be embedded with general daily healthy lifestyle and health promotion initiatives (sleep, stress management, diet etc.).

**TweetHandle:**

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**0040**

**“Bullying or not bullying...it puts us in an uncomfortable situation”: Challenges and Facilitators to Implementing a Statewide Anti-Bullying Policy**

Y-S Nam<sup>1</sup>, M McFalls<sup>1</sup>, C Calvert<sup>1</sup>, A Hernandez<sup>1</sup>, S Adkins<sup>2</sup>, A Iwan<sup>1</sup>, M Ramirez<sup>1</sup>

<sup>1</sup> *University of Minnesota School of Public Health, Minneapolis, The United States of America*

<sup>2</sup> *Augusta School, Augusta, The United States of America*

**Abstract: Statement of Purpose:** Anti-bullying policies targeting bullying behavior in schools are now adopted across all 50 states; however, their effectiveness depends on their implementation. This study illustrates how Maine schools implemented their district’s anti-bullying policies and presents facilitators and challenges to implementing these policies.

**Methods/Approach:** Semi-structured interviews were conducted among 22 school personnel involved in implementing anti-bullying policies (administrators, counselors, teachers, and support staff). These 22 school personnel came from six school districts selected from four rural and two urban schools representing the children’s cabinet regions of the state. Interview transcripts were analyzed using content analysis methods. Respondents were asked to recount how bullying allegations are reported, their experience investigating bullying allegations, how safety measures and responses plans are implemented, and the content of the anti-bullying training provided.

**Results:** Implementation of anti-bullying policies varied across schools. Respondents provided examples of how school district resources assisted in establishing bullying reporting systems and creating a safety measures for all parties involved. Other resources such as school resource officers and community partnerships supported local policy implementation. Respondents discussed lack of funding to carry out the policy, time constraints to investigate bullying allegations, and limited training to conduct investigations as challenges to upholding the policy requirements.

**Conclusions:** The challenges and facilitators to implementing anti-bullying policies reported by school staff identify where policy implementation practices can be improved to reduce bullying victimization.

**Significance and Contributions to Injury and Violence Prevention Science:** This study highlights how the challenges and facilitators to implementing statewide policy enhances our understanding of the potential connections between anti-bullying policies, policy implementation, and bullying incidents.

## TweetHandle:

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0041

Coping and Wellbeing for Emergency Department Workers Who Experience Workplace Violence

D Daniel<sup>1</sup>, G Gillespie<sup>1</sup>, S Brammer<sup>1</sup>

<sup>1</sup> *University of Cincinnati, Cincinnati, The United States of America*

**Abstract: Statement of Purpose:** The impact of workplace violence (WPV) to emergency department (ED) workers' psychological wellbeing and coping is not known. Our study purpose was to describe coping and wellbeing of ED workers who have experienced WPV. The theoretical framework guiding our research was Neuman's Systems Model, specifically the constructs of basic human structure (wellbeing), lines of resistance (coping), and stressors (WPV).

**Methods/Approach:** We used a cross-sectional survey design with ED workers from six Midwestern EDs. A convenience sample completed the Coping Resources Inventory (CRI) and Freidman Wellbeing Scale (FWBS). Survey domains were coded using instrument guidebooks including reverse coding to generate overall survey scores. Sample scores were compared to national normative scores (CRI female: 176.96, CRI male: 1701.6, FWBS: 63.34) using two-tailed t-tests.

**Results:** The majority of the 208 respondents were registered nurses (58.3%), full-time employees (79.1%), female (74.5%), and White (89.9%). Their mean years of experience was 12 years and age was 37 years. The sample's CRI score was 123.05. After comparing sample scores to their national normative sex-based scores, the sample's mean difference of 52.17 was significantly lower than the national normative score,  $t(207)=34.011$ ,  $p<0.001$ . The FWBS score for the sample was 68.31, which was significantly higher than the national normative score,  $t(207)=4.829$ ,  $p<0.001$ .

**Conclusion:** Although use of coping skills after experiencing WPV was significantly lower than the general population, participants' overall wellbeing remained high. These findings can be explained by Neuman's System Model where wellbeing is part of the basic human structure, which develops across the lifespan and would remain intact following intermittent WPV incidents.

**Significance/Contribution to Injury and Violence Prevention Science:** Our findings represent ED workers' need to learn effective coping skills prior to and after exposures to WPV in order to maintain wellbeing. Stress inoculation training can aid EDs in developing workers' skills.

**TweetHandle:** Emergency department workers who experience workplace violence use coping skills significantly less often than the general population. Strategies are needed to help them effectively use coping skills to protect their wellbeing. @glgillespie2 @UCnursing

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0042

Work Productivity and Stress of Emergency Nurses Working with Trauma Patients

J Jobe<sup>1</sup>, G Gillespie<sup>1</sup>, D Schwytzer<sup>1</sup>

<sup>1</sup> University of Cincinnati, Cincinnati, The United States of America

**Abstract: Statement of Purpose:** Our research purpose was to examine the effects on the productivity and stress of emergency nurses working with acute trauma patients in the emergency department (ED) setting.

**Methods/Approach:** A cross-sectional survey design was used. Participants were recruited from three trauma center EDs in the Midwest United States. Participants completed the Impact of Events Scale—Revised (IES-R) and Healthcare Productivity Scale (HPS) based on a trauma care experience within the preceding 30 days. Item responses to IES-R and HPS were summed to yield stress and work productivity scores. Descriptive statistics were calculated to describe the study sample. A 2-tailed Pearson correlation was calculated to explore the relationship between stress impact of providing trauma care and emergency nurses' work productivity.

**Results:** Of the 255 respondents, the majority was White (n=231, 90.9%), female (n=206, 86.2%), treated both adult and pediatric patients (n=190, 74.5%), and had access to employer-provided Critical Incident Stress Debriefing (CISD) (n=147, 59%). About a third reported high stress (n=97, 38%) and 72 (28.2%) reported decreased work productivity. The correlation between stress and work productivity was not significant ( $r=-0.005$ ,  $p=0.933$ ).

**Conclusions:** Although only mild to moderate stress and work productivity changes due to caring for trauma patients were reported, more research is needed to capture real-time stress/response or data reflecting the stress/work productivity changes immediately following the caring for a trauma patient. The availability of CISD may have been a protective factor to mitigate the negative impact of stress. Further investigation is warranted to study the impact of CISD and training on self-reported stress levels of emergency nurses.

**Significance/Contribution to Injury and Violence Prevention Science:** Identifying characteristics of trauma patient care leading to increased stress, particularly when coupled with decreased work productivity, is important for the safety of the trauma patients receiving clinical care.

**TweetHandle:** Emergency nurses globally are committed to the care of traumatically injured patients. This care can adversely impact the mental health of emergency nurses and their overall work productivity. @gillespie2 @UCnursing

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0044

## Assessing the Acceptability, Feasibility, and Uptake of a Collective Impact Model to address Gun Violence: A Case Study of Code Red PA

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**Abstract: Purpose:** Gun violence is a multi-faceted, complex public health problem, historically underfunded in research. With an uptick in funding gun violence research, we are better able to build the evidence around impactful community-based interventions, state laws, and policies. The collective impact model offers a promising strategy to implement change at a large scale with broad, cross-sector collaboration. Evidence suggests that in order for collective impact initiatives to be successful, five conditions must be in place: a common agenda, shared measurement systems, mutually reinforcing activities, continuous communication, and backbone support organizations.

**Methods/Approach:** The current study applies implementation research methods to examine the success or failure of applying the collective impact model to address gun violence at a large scale. To do this, we use Code Red PA, a cross-sector, statewide initiative in Pennsylvania with the collective goal of reducing gun violence in PA, as a case study. Given the diverse gun culture in Pennsylvania, and the overall complexity of the problem, a collective impact approach is well justified. We will collect data from in-depth, key-informant interviews, observations, and relevant documents, and examine outcomes related to the acceptability, uptake, and feasibility of adopting the tenants of collective impact.

**Results/Conclusions:** Results from this study will inform how Code Red PA is successfully adopting a true collective impact model. Broadly, results will also inform how the collective impact model can be effectively applied to gun violence efforts in other states and municipalities.

**Significance of Research:** This is the first known study to examine the feasibility of a collective impact model to reduce gun violence. As new evidence related to the effectiveness of gun violence strategies become available, we need to understand how to best implement these strategies using the tenants of collective impact that are often required to address complex problems.

**TweetHandle:** Addressing Gun Violence using a Collective Impact Model

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0046

Overdose deaths involving alcohol in US Veterans

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**Abstract: Statement of Purpose:** Alcohol-involved overdose deaths have increased in recent years and often occur in combination with other substances. To inform overdose prevention efforts, this study assessed patient characteristics and treatment utilization among Veterans who died from alcohol-involved overdoses nationally.

**Methods:** Using Veterans Health Administration (VHA) records linked to National Death Index data from 2012 to 2017, trends in overdose mortality were examined and patient characteristics and treatment receipt were compared across alcohol overdose categories (alcohol alone, alcohol+opioids, alcohol+other substances).

**Results:** Across the study period, 1497 Veterans died from alcohol overdose alone, 1078 Veterans died from alcohol+opioids and 289 died from alcohol+other substances. Veterans who overdosed on alcohol+opioids and alcohol+other substances were more likely to be homeless, live in urban areas, and more likely to have comorbid depressive disorder and stimulant use disorder. Only a minority of patients who died from alcohol-involved overdose were seen in substance use disorder treatments settings within a year before their death, but the majority were seen in either mental health or primary care settings. Only about 7% of Veterans who died from alcohol overdose received any medication treatment for alcohol use disorder in the year prior to their deaths.

**Conclusions:** The vast majority of patients who died from alcohol overdose did not receive treatment in substance use disorder settings or effective medication treatments.

**Significance and Contributions to Injury and Violence Prevention Science:** This study is the first to examine treatment characteristics of people who died from alcohol-involved overdose and suggests further efforts are needed to prevent the spectrum of alcohol overdose deaths including implementing alcohol use disorder treatment in settings outside of substance use disorder settings.

**TweetHandle:**

- Use of alcohol use disorder treatment is minimal in patients who died from alcohol overdose suggesting need for interventions to increase treatment

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0047

**Investigating the Feasibility and Acceptability of Firearm Safety Counseling and Distribution of Safe Storage Devices in the Pediatric Emergency Department**

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**Abstract:** Purpose: To assess feasibility and caregiver acceptability of providing firearm safety education and free safe-storage devices in the ED.

Methods: Prospective feasibility study of caregivers in a pediatric ED. Participants completed electronic surveys on firearm safe-storage knowledge and practices, and received video-based firearm-safety education. We offered those with firearm access free cable locks and device education. We contacted subjects two weeks post-ED visit to assess firearm safety practices, cable lock use, and acceptability of the intervention.

Results: We enrolled 307 participants. 43 participants (14%) reported a firearm in the home at some point during the week. 16/43 (37%) of families with guns had never received safe-storage information prior to this ED visit. Among those with handguns, 17% reported not using a safety device and 17% reported storing the gun loaded. 47 (15%) of all participants received one or more cable locks from the study team.

240 (78%) subjects completed the 2-week follow-up survey. 182 (75%) participants had shared the firearm-safety information they received with others, 213 (89%) felt the ED was an appropriate place to discuss firearm safety, and two participants had removed a firearm from their home. Of the 163 participants who had the opportunity to ask about firearms in the homes where their children visit, 111 (68%) did ask, compared to only 61/163 (37%) at time of ED intervention, ( $p < 0.01$ ). Amongst those with guns, 31/43 (89%) reported using a safe storage device for their firearm.

Conclusions: It is feasible to provide firearm-safety education and cable locks to caretakers in the ED. Caretakers considered these practices acceptable and appropriate. The education and device distribution led to a change in intended and actual practices of firearm safety.

Significance and Contributions to Injury and Violence Prevention Science: Providing firearm safety education in the ED can lead to improved firearm safety practices.

**TweetHandle:** Firearm Injury Prevention Initiatives in the Pediatric ED #safestorage #gunsafety @sofiaschaudhary @pedERdoc @akweissMD @PEMatCHOP @CIRPatCHOP @strong\_4\_life @childrensatl

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0048

## **Visio-vestibular function of pediatric patients presenting with the first concussion vs. a recurrent concussion**

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**Abstract: Statement of Purpose:** The purpose of this study was to investigate visio-vestibular examination (VVE) outcomes in high school-aged patients presenting with their first concussion vs. recurrent concussion.

**Methods:** This study was performed by querying data collected prospectively in the electronic health record for patients aged 14-18 years old presenting for their initial injury visit to specialty concussion care centers within 28 days of injury between January 2018 and August 2020. Demographic information including lifetime concussions were self-reported prior to the start of the exam. The VVE consisted of 9 maneuvers: smooth pursuit, horizontal/vertical saccades and gaze stability, binocular convergence, left/right monocular accommodation, and complex tandem gait. Primary outcomes included self-reported lifetime concussions (1 vs. 2+), VVE subtests (normal/abnormal for each), and total VVE score (abnormal= 2+ abnormal subtests). A multivariable logistic regression was employed to determine if recurrent concussion was associated with abnormal VVE outcomes while controlling for age.

**Results:** One thousand fifty-two patients were included in analysis (age=15.6±1.2 years). Five hundred and nineteen (49.3%) presented with a recurrent concussion (median lifetime concussions=3, IQR=2,3). When controlling for age, there were no significant associations between first vs. recurrent concussion and VVE outcome on any of the 9 subtests or total VVE score (P>0.05).

**Conclusion:** First vs. recurrent concussion is not associated with abnormal VVE outcomes in high school-aged patients. Our findings suggest that patients with a concussion history present with similar visio-vestibular function to those with no concussion history at initial visit following injury.

**Significance/Contribution to Injury and Violence Prevention Science:** Recurrent concussions have been associated with cumulative clinical deficits and longer recovery in collegiate athletes. This study provides novel insight into the initial presentation of pediatric concussion patients with and without a previous concussion history. Additionally, our study adds formative data regarding cumulative clinical effects of concussion in younger athletes.

**TweetHandle:** Pediatric patients with a concussion history present with similar visio-vestibular function to those with no concussion history at initial visit following concussion. This study adds formative data regarding cumulative clinical effects of concussion in younger athletes.

**0049**

Within-person predictors of same day alcohol and prescription opioid use among youth presenting to an urban emergency department

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*America*<sup>3</sup> *University of Michigan, Ann Arbor, The United States of America*

**Abstract: Statement of Purpose:** To use longitudinal data collected from youth presenting to an urban emergency department to determine predictors of within-person changes in alcohol and prescription opioid same day use frequency.

**Methods/Approach:** Research assistants recruited youth age 14-24 reporting past-six-month substance use into the Flint Youth Injury study from 11/2009-9/2011 (n=599; 349 violently-injured at baseline). Participants self-administered validated measures of alcohol use severity, cannabis use severity, mental health symptoms, social support/influences, and violent injury at baseline and four biannual follow-ups. In addition, participants completed Time Line Follow Back calendars (baseline: 30-days; follow-ups: 90-days) which allowed ascertainment of same day use of alcohol and prescription opioids. We calculated the prevalence of same day alcohol and prescription opioid at each follow-up, and used negative binomial regression with person-level fixed effects to isolate within-person predictor effects on same-day use frequency.

**Results:** Between 2.0% (baseline) and 5.7% (18-month follow-up) of youth reported same-day use of alcohol and prescription opioids across follow-ups, with 19.9% reporting same-day use in at least one follow-up. Within-person increases in alcohol use severity, cannabis use severity, and depression and anxiety symptoms all corresponded to increases in same day alcohol and prescription opioid use frequency. Increased exposure to positive peer influences, and decreased exposure to delinquent peers, both coincided with lower same day alcohol and prescription opioid use frequency.

**Conclusions:** Same day use of alcohol and prescription opioids is common in this population, and within-person changes are predictable. Interrupting worsening trajectories of substance use severity and mental health symptoms, and enhancing social support and reducing delinquent peer exposures, may reduce same day use frequency.

**Contributions/Significance to Injury and Violence Prevention Science:** Co-use of alcohol and prescription opioids dramatically increases acute risks (e.g., overdose) associated with each;



understanding within-person predictors of same day use may point to catalysts for behavior change.

**TweetHandle:** Same day use of alcohol and rx opioids is common among youth presenting to the ED, and within-person changes are predictable. Interrupting worsening trajectories of substance use severity and mental health symptoms, and enhancing social support and reducing delinquent peer exposures, may reduce same day use. @jasongoldstick

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## 0050

Descriptive network analysis of co-occurring drug use disorders and associated predictors among adolescents and emerging adults presenting to an urban emergency department

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**Abstract:** Statement of Purpose: Estimate frequency of drug use disorder (DUD), multiple substance co-diagnosis network characteristics, and predictors of DUD among youth entering an urban emergency department (ED).

Methods: Drug using youth age 14-24 (n=599; 349 assault-injured) presenting to a Level-1 ED were recruited. Participants were contacted at baseline and at 6-, 12-, 18-, and 24- months post-baseline and administered validated measures of peer/parental behaviors, violence/crime exposure, drug use self-efficacy, and alcohol use. Participants were administered the MINI neuropsychiatric interview to diagnose use disorder (abuse/dependence) with nine substances. Dependencies between co-DUD diagnosis were estimated using Ising network models. Repeated measures logistic regression models were used to determine predictors of DUD.

Results: Among 2,630 assessments, 1,128 (42.9%) were DUD diagnoses; 21.7% were co-diagnoses with multiple drugs. Cannabis use disorder was the most frequent diagnosis (n=1,050), with the cannabis/prescription sedative combination the most common co-diagnosis (n=112). The

cocaine/prescription opioid combination showed the strongest partial correlation and was the most central element in the network. Regression models show positive peer behaviors and parental support to be protective factors for DUD diagnosis, while interpersonal violence exposure, community violence/crime exposure, alcohol use quantity, other mental health diagnoses, and drug use self-efficacy were DUD risk factors.

Conclusions: DUD is prevalent in this population and associated with personal, social, and community exposures. Among those with DUD, diagnosis with multiple drug use disorders was common; network analyses showed several large partial correlations between substances, with cocaine and prescription opioid use disorder co-diagnosis being the most strongly associated.

Significance and Contributions to Injury and Violence Prevention Science: DUD is linked to a variety of injuries including suicide, partner violence, firearm violence, death by homicide, and violence/injury in general. Understanding the relationship between co-occurring DUDs and associated risk factors allow for targeted intervention strategies.

**TweetHandle:** Network analysis shows co-occurring drug use disorder diagnoses are common, and associated with personal, social, and community exposures. New research from @Matt\_Myers\_MPH @jasongoldstick of @UMInjuryCenter to be presented at #SAVIR21 @savir\_org

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## 0051

Objective measures of visual and autonomic system deficits following concussion in adolescents

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**Abstract: Purpose:** Visual and autonomic system disturbances are common sequelae of concussion. Clinical concussion diagnosis currently relies on subjective assessments such as symptom questions such as the Post-Concussion Symptom Inventory (PCSI). Quantification of visual and autonomic dysfunction could provide an objective method of acute diagnosis and subacute identification of ongoing injury.

**Approach:** We collected objective eye tracking data from three cohorts ages 12-17 years: healthy controls (n=105, mean age: 15.3, 56.2% female), concussed cases seen within 28 days of injury (acute, n=125, mean days since injury:12.5, mean age: 15.4, 46.4% female) and concussed cases seen within 29-90 days of injury (sub-acute, n=94, mean days since injury: 53.6, mean age: 15.4, 70.2% female). We compared self-reported symptoms and eye tracking metrics across groups using a series

of chi-square analyses and one-way analysis of variance, with Tukey's range test for post-hoc testing. Bonferroni corrections were used to account for multiple comparisons.

**Results:** Controls reported significantly lower PCSI scores (mean  $\pm$  SD: 6.0  $\pm$  9.1) than acute cases (31.2  $\pm$  24.7,  $p < 0.001$ ) and sub-acute cases (31.4  $\pm$  27.8,  $p < 0.001$ ). A significantly lower proportion of controls experienced symptoms after completing the assessment (10%) than acute cases (55%,  $p < 0.001$ ) and sub-acute cases (38%,  $p < 0.001$ ). Six eye tracking metrics related to pupil diameter (left and right pupil size mean and median values, mean and median differences in left and right pupil size), were significantly greater among acute and sub-acute cases compared to controls.

**Conclusion:** Measures of pupil diameter were greater for acute and sub-acute cases compared to healthy controls, suggesting autonomic dysfunction post-injury. No other metrics related to eye movement were discriminatory in this cohort, likely due to the heterogeneity of concussion.

**Significance:** These findings support the quantification of visual and autonomic dysfunction as objective markers of pediatric concussion.

**TweetHandle:** New research from @ChildrensPhila's Minds Matter #Concussion Program supports the quantification of visual and autonomic dysfunction as objective markers of pediatric concussion. Read the abstract: [LINK](#)

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## 0053

An Analysis of Drug Overdose Deaths by Intent in Ohio from 2016-2018

D Saunders<sup>1</sup>, A Hagemeyer<sup>1</sup>, L Werhan<sup>1</sup>

<sup>1</sup> *Ohio Department of Health, Columbus, The United States of America*

### **Abstract:**

#### Statement of Purpose

In 2018, unintentional drug overdose was the leading cause of injury-related deaths among Ohioans. In the same year, drug poisoning was the third leading mechanism of suicide deaths. This session will review the "who, when, where, and how" of overdose deaths from the Ohio Violent Death Reporting System (OH-VDRS) to provide participants with an understanding of the sociodemographic characteristics and related circumstances (e.g., prior suicide attempts, prior mental health or substance use disorder treatment, co-occurring mental health conditions) surrounding overdose deaths.

#### Methods/Approach

Descriptive statistics of 2016-2018 OH-VDRS data assessed sociodemographic characteristics of and circumstances preceding deaths by unintentional and intentional (i.e., suicide) drug overdose among Ohio residents who died in Ohio.

## Results

Regardless of intent, most drug overdose decedents were Caucasian (unintentional: 84.6% versus intentional: 95.3%) with a high school degree or less (unintentional: 77.4% versus intentional: 62.5%). While unintentional drug overdose decedents were more likely to be male (67.0%) and 25-34 years old (27.8%), most intentional drug overdose decedents were female (54.9%) and 45-54 years old (26.3%). Regarding circumstances, a larger proportion of unintentional drug overdose decedents had a substance abuse problem (86.2% versus 27.3%), while a larger proportion of intentional drug overdose decedents had a mental health condition (78.9% versus 43.3%). Toxicology differences were noted; antidepressants, anticonvulsants, antipsychotics, and benzodiazepines were identified as a cause of death in a higher proportion of intentional drug overdose deaths, while cocaine and opioids were identified in more unintentional drug overdose deaths.

## Conclusion

Examining drug overdose trajectories by intent can better inform interventions by targeting diverse prevention strategies to the appropriate populations.

## Significance/Contribution to Injury and Violence Prevention Science

A better understanding of drug overdose trajectories by intent could provide evidence to guide the data-driven decision making surrounding the development and implementation of evidence-based policies, programs, and interventions.

## TweetHandle:

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## 0054

Social and Physical Environmental Determinants of Violent Homicide Death Incidence: A Spatial Ecological Case-Control Study of US ZIP Codes

[A Gobaud](#)<sup>1</sup>, C Mehranbod<sup>1</sup>, C Morrison<sup>1</sup>

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**Abstract: Statement of Purpose:** Violent homicide is a major cause of death and a driver of health disparities in the US. It is not clear why some neighborhoods with high concentrations of racial and ethnic minority residents have high violent homicide incidence, while others do not experience violent homicide. The aim of this study is to identify the social and physical environmental conditions that contribute to increased violent homicide incidence in US neighborhoods, independent of racial and ethnic composition.

**Methods/Approach:** Using the CDC's National Violent Death Reporting System (NVDRS), we conducted an ecological case-control study to compare environmental conditions in the 250 ZIP

codes with the highest violent homicide death rate in 2017 (cases) to 250 ZIP codes that did not experience any violent homicide deaths in 2017 (controls). Cases were matched 1:1 to interstate controls based on demographic profiles. A multi-level logistic regression estimated the odds that ZIP codes have high incidence of violent homicide according to social and physical environmental conditions measured at both the ZIP code- and state-levels.

**Results:** We found that local neighborhood socioeconomic demographics were associated with incidence of violent homicide death, independent of age, race/ethnicity, and sex. Associations were strongest for lower median household income and greater economic inequality at the ZIP code-level. ZIP-code characteristics explained associations between state-level characteristics and violent homicide occurrence.

**Conclusions:** Living in higher-income and less densely populated ZIP codes was associated with decreased risks of violent homicide. Local ZIP code characteristics are stronger determinants of homicide incidence than state-level characteristics.

**Significance and Contributions to Injury and Violence Prevention Science:** Area-based interventions that would improve neighborhood social and economic conditions may reduce violent homicide incidence.

**TweetHandle:**

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**0055**

Potential for using mobile apps to deliver safety interventions to commercial fishermen

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**Abstract:** Statement of Purpose: Mobile technology is being used to develop innovative safety interventions for a variety of workplaces. We assessed the potential for using such technology to improve safety in commercial fishing, one of the most dangerous occupations in the United States. Technology adoption theories suggest that experienced mobile device users would be more likely to adopt a new app than inexperienced individuals. In this analysis we examined commercial fishermen's current use of mobile devices and safety-related apps during their usual fishing operations.

Methods/Approach: Participants were commercial fishing vessel captains who owned an iOS or Android smartphone or tablet. As part of a study field-testing two novel mobile apps, we collected

information about participants' prior mobile device use and app use during typical fishing operations, as well as their interest in such apps more generally.

Results: Of the 52 participants who completed all stages of the study, 86.5% (n=45) reported ever having used a mobile device while out at sea, 59.6% (n=31) reported using apps to help them with their commercial fishing work, and 25.0% (n=13) reported using safety-related apps either at work or on their own time.

Conclusion: Among commercial fishing captains with a smartphone or tablet, a majority have used at least one mobile device during fishing operations. More than half already use mobile apps to help them with their fishing work, and one quarter already use some kind of safety-related mobile apps.

Significance/Contribution: Many commercial fishing captains use a smartphone or tablet while fishing at least some of the time, and a substantial proportion of them already use apps for fishing or safety purposes. These findings suggest that commercial fishing workers are experienced mobile device users who are open to using safety-related apps. Mobile apps are therefore a promising avenue for delivering safety interventions to this population.

**TweetHandle:** "Mobile app technology presents opportunities for injury prevention in the commercial fishing industry"

Twitter handle: jennaralepi

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**0056**

Law enforcement and trauma care in the emergency department

SF Jacoby<sup>1</sup>, JH Beard<sup>2</sup>, EJ Kaufman<sup>1</sup>

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**Abstract:** Statement of Purpose: Our purpose is to describe how United States' (US) trauma surgeons perceive law enforcement activities during acute trauma care and their impact on patient care.

Methods: All trauma surgical care providers who are members of the American Association for the Surgery of Trauma, the preeminent trauma surgical professional society in the US were recruited via email for an anonymous online survey from September-October 2020. All data were analyzed descriptively.

Results: Approximately 20% (231) of the society's membership completed the survey. The majority of respondents were affiliated with Level I trauma centers in urban settings, and witness law enforcement activities during trauma care at least weekly. These activities include questioning patients as suspects or witnesses to crimes, evidence collection, and surveillance of patients under arrest.

Respondents' perceptions of the risks and benefits of law enforcement activities during emergency trauma care varied widely. On a continuum from very harmful to very helpful for patients, 36% perceived police presence during emergency trauma care as neither helpful nor harmful, 36% as helpful, and 28% as harmful. The majority (80%) felt that they had oversight over police access to patients in their care. To determine access to patients, respondents prioritized patients' physiologic stability and the safety of clinical staff. 79% did not know of any institutional policy at their place of employment to guide law enforcement activities during acute trauma care, and 73% endorsed the need for relevant policy.

Conclusions: Law enforcement activities frequently intersect with the emergency care of trauma patients, and current institutional guidance is lacking.

Significance/Contribution to Injury and Violence Prevention Science: As law enforcement officers are asked to play increased roles in emergency medical care (in response to violence, motor vehicle crashes, and opioid overdoses) there is a need to evaluate current practice and address relevant policy gaps.

**TweetHandle:**

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**0057**

### **Evaluation of Trauma Informed Care Training at a Level I Pediatric Trauma Center (PTC)**

R Kelly<sup>1</sup>, KN Russell<sup>1</sup>, LA Voith<sup>1</sup>, A Huth-Bocks<sup>1</sup>, M Krock<sup>2</sup>, M Salas Atwell<sup>1</sup>, EM Barksdale Jr.<sup>2</sup>

<sup>1</sup> Case Western Reserve University, Cleveland, The United States of America <sup>2</sup> UH Rainbow Babies and Children's Hospital, Cleveland, The United States of America

**Abstract: Purpose:** To evaluate baseline attitudes and confidence related to providing Trauma Informed Care (TIC) and quality of professional life of Emergency Department (ED) Staff at a Level I PTC, and to examine pre-post changes after a training session. We hypothesize that TIC training will improve attitudes and confidence in delivering TIC.

**Methods:** A total of 76 healthcare professionals completed a pre-post survey as part of a TIC training at an urban, midwestern Level I PTC. The training consisted of one 3-hour session covering the impact and pervasive nature of trauma, recognizing traumatic stress, and benefits of providing a healing environment. The survey included demographic questions, the Attitudes Related to Trauma-Informed Care Scale (ARTIC) measuring trauma-informed knowledge and attitudes, and the Professional Quality of Life Scale (ProQOL) measuring burnout and secondary trauma.

**Results:** Overall, participants demonstrated relatively high compassion levels, and over half of the participants indicated low levels of burnout and secondary trauma. Compared with pre-training (n=76), participants demonstrated a statistically significant increase ( $p < 0.05$ ) in TIC knowledge and attitudes post-training (n = 35).

**Conclusions:** Though ED staff began with relatively high levels of trauma-informed attitudes and beliefs, the training yielded a positive increase in those attitudes. Given the small sample size and the fact that less than half of all participants who received training completed the survey, the attitudes captured may be skewed towards participants who had higher baseline attitudes and were more motivated to deliver TIC. This provides an opportunity to adjust the training to improve engagement.

**Significance and Contributions to Injury and Violence Prevention Science:** Applying TIC has the potential to benefit patients who experience traumatic injuries as well as healthcare professionals who may experience secondary traumatic stress through providing care. Improvement in staff attitudes after the training session suggests possible benefits of continued TIC training.

**TweetHandle:** Evaluating Trauma Informed Care Training of Emergency Department staff @UHRainbowBabies for the #AntifragilityInitiative, a hospital-based violence intervention program. We're working to provide better support to patients who suffer from violent injuries and the hospital staff that care for them.

Author: @\_RebeccaK7

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**0058**

Changes in suspected overdoses following the start of the COVID-19 pandemic: results from the Michigan System for Opioid Overdose Surveillance

A Ballesteros<sup>1</sup>, J Roche<sup>2</sup>, M Myers<sup>1</sup>, P Carter<sup>1</sup>, R Cunningham<sup>1</sup>, J Goldstick<sup>1</sup>

<sup>1</sup> University of Michigan Injury Prevention Center, Ann Arbor, The United States of America <sup>2</sup> University of Michigan Injury Prevention Center, Ann Arbor, The United States of America

**Abstract: Statement of Purpose:** To use data from a state-wide opioid overdose surveillance system in Michigan to evaluate changes in opioid overdose frequency during the COVID-19 pandemic.



**Methods/Approach:** The System for Opioid Overdose Surveillance (SOS) is a near real-time overdose surveillance system in the state of Michigan run out of the University of Michigan Injury Prevention Center, in collaboration with the Michigan HIDTA. SOS receives daily data feeds containing all EMS encounters involving naloxone administration, and daily data on suspected fatal overdoses from medical examiners covering ~80% of the state's population. We used SOS data to compare spatial and temporal changes in suspected opioid overdoses after 3/1/20, the approximate timing of the intensification of the COVID-19 pandemic, and compared those changes those seen at the same time in 2019.

**Results:** From 3/1/20-9/16/20, suspected fatal overdoses were 15.0% higher than during the same time in 2019, and naloxone administrations by EMS were 28.8% higher; a majority of counties and cities saw analogous changes, though the magnitude varied. Rates of both suspected fatal overdoses and EMS naloxone administrations were higher in 2020 prior to March, but the difference increased following the start of the pandemic. By late August, rates of suspected fatal overdoses returned to 2019 levels, but EMS naloxone administration rates remained were nearly 40% higher than the same time in 2019.

**Conclusions:** Evidence suggests that overdose and the COVID-19 pandemic are interwoven crises, and resources are required to address both the isolation and stress of the pandemic, and the medical system excess burdens, which all may intensify substance use, and reduce the likelihood of seeking treatment.

**Contributions/Significance to Injury and Violence Prevention Science:** Overdose remains a leading cause of death, and that burden has increased during the pandemic in Michigan. Approaches are needed to address secondary effects of the COVID-19 pandemic.

**TweetHandle:** Michigan statewide overdose surveillance system show overdose trends changed following the start of the #COVID19 pandemic.

@UMInjuryCenter

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**0059**

Development and use of a high-fidelity tractor driving simulator to examine the effect of age on crash risk

K Faust<sup>1</sup>, C Casteel<sup>1</sup>, D McGehee<sup>2, 3</sup>, D Rohlman<sup>2</sup>, C Peek-Asa<sup>2</sup>, M Ramirez<sup>4</sup>

<sup>1</sup> University of Iowa College of Public Health, Iowa City, The United States of America <sup>2</sup> University of Iowa College of Public Health, Iowa City, The United States of America <sup>3</sup> National Advanced Driving Simulator, Iowa City, The United States of America <sup>4</sup> University of Minnesota School of Public Health,

*Minneapolis, The United States of America*

**Abstract:** Purpose: The purpose of this research was to build a tractor-driving miniSim, describe its perceived realism, and use it to examine associations between age and tractor-driving performance among farm-equipment operators (FEOs).

Methods: FEOs completed a simulated drive and a survey scoring four realism domains (i.e., appearance, user interface, control, and sound) of the tractor simulator using a Likert scale (from 0 = not at all realistic to 6 = completely realistic). Overall realism and domain scores were calculated. FEOs provided suggestions for improving the simulator before completing a second drive where they encountered a driving hazard. Driver's perception response time was analyzed for association with age and selected covariates.

Results: The simulator received favorable realism scores for all domains with "appearance" receiving the highest average realism score (4.58, SD = 1.03) and "sound" receiving the lowest (3.86, SD = 1.57). The most suggested improvements were to tighten the steering wheel (27%), make the front tires visible (19%), and that no improvements were needed (18%). FEOs 65+ responded 5.00 [95% CL=-1.23, 11.24] seconds slower than younger FEOs when adjusted for medical diagnoses, labeled medication use, tractor generation, and tractor horsepower.

Conclusion: The realism scores and suggestions from the FEOs demonstrated that the tractor miniSim is a viable approach to studying tractor driving. When examining the association between age and driving performance, it demonstrated that older FEOs have slower perception response times and therefore greater crash risk than younger FEOs.

Significance/Contribution to IVP: Farm equipment crashes represent the nation's leading cause of work-related death within the deadliest occupation. As farmers continue to grow older, the need to understand their age specific risk factors for injury will continue to rise. Trends demonstrated in this study have the potential to become more significant as tractors increase size and velocity thereby increasing stopping distances.

**TweetHandle:** A newly developed tractor-driving simulator demonstrated that older farmers might be at greater risk for tractor crashes than younger farmers.

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**0060**

Social support, marginalization, and teen dating violence among New Mexico youth

C FitzGerald<sup>1</sup>

<sup>1</sup> *University of New Mexico Prevention Research Center, Albuquerque, The United States of America*

**Abstract:** PURPOSE: This study uses data from the 2015 New Mexico Youth Risk Behavior Survey to determine whether perceived support is associated with lower prevalence of teen dating violence among marginalized youths. METHODS: I conducted hierarchical linear regression to predict the

effect of social support in three domains (at home, at school, and in community) on teen dating violence when controlling for the effects of marginalized identity, including sexual orientation, race/ethnicity, parent education, physical disability, nativity and homelessness. RESULTS: Marginalized identities predicted higher prevalence of dating violence, with girls, homeless students, students with disabilities or long-term health problems, students born outside the U.S.A. and LGB students and those unsure of their sexual orientation experiencing more dating violence than their peers. When evaluated independently, social support at home, at school, and in the community each significantly predicted lower prevalence of teen dating violence. In multi-variable modeling, however, only home support and community support remained significantly predictive of less dating violence when controlling for marginalized identities. CONCLUSION & SIGNIFICANCE: Social support in this study accounted for a small amount of the total variability in teen dating violence, while marginalization explained much more. Even so, these findings suggest that positive relationships with adults at home and in the community may help to protect marginalized young people from dating violence victimization.

**TweetHandle:** Perceived support at home and in the community are associated with lower rates of teen dating violence among students with marginalized identities! Positive relationships can make a difference.

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## 0061

Barriers and Facilitators to Successful Recruitment and Engagement of Black and Latinx Youth in Hospital-Based Violence Intervention Programs

LA Voith<sup>1</sup>, M Salas Atwell<sup>1</sup>, KN Russell<sup>1</sup>, H Lee<sup>1</sup>, N Boinpally<sup>1</sup>, J King<sup>1</sup>

<sup>1</sup> Case Western Reserve University, Cleveland, The United States of America

**Abstract: Purpose.** Black and Latinx youth bear an unequal burden of adversity and trauma with an overrepresentation in violent injury and gunshot wound hospital admissions. To address the long-reaching developmental impacts on health and wellbeing, hospital-based violence intervention programs (HVIPs) have emerged to provide case management services after discharge. Recruitment and engagement of youth are primary barriers to program success, yet little research exists on best practices. By convening a sample of representatives from established HVIPs, this study illuminates barriers and facilitators to successful recruitment and engagement of youth.

**Methods.** Drawing from four HVIPs based in Midwest and Northeast cities of similar demographics in the United States, a purposive sample of representatives (n = 7) participated in a focus group (90 minutes). Content analysis was conducted in three phases. First, two researchers separately completed open and focused coding resulting in preliminary categories. Second, a researcher reviewed these codes for accuracy, and revisions were made after consensus was reached. Third, preliminary themes were vetted and finalized by the full research team using consensus. A code book was created documenting all changes.

**Results.** Two themes emerged related to barriers and facilitators: “Individual/Relational” with categories such as Patient and Parent-Specific Characteristics, Building Rapport, Enhancing the Teachable Moment, and Building Relational Health; and “Structural/Systemic” with categories including Hospital Investment, Structural Racism, Workflow, Training and Preparedness of Staff, and Trauma Informed Procedures.

**Conclusions.** The findings illuminate barriers and facilitators relevant to structural, programmatic, familial, and youth-focused aspects of HVIPs. Strategies to address these barriers are discussed.

**Significance.** This is the first study to examine facilitators and barriers to recruitment and engagement of clients in HVIPs. As the emerging standard of care for violent injury in hospitals, studies advancing the practices of HVIPs are critical to ending the cycle of violence experienced by youth of color.

**TweetHandle:** @lavoith

We're excited to contribute to the relational health of #violenceintervention programs by sharing the lessons learned and successes of #HVIPs related to recruitment and engagement of youth and families exposed to severe violence.

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## 0062

In the midst of COVID-19: Challenges and creative solutions to conduct a randomized trial with immigrant religious leaders to prevent intimate partner violence

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<sup>1</sup> University of Georgia School of Social Work, Athens, The United States of America <sup>2</sup> University of Georgia College of Public Health, Athens, The United States of America <sup>3</sup> KAN-WIN, Chicago, The United States of America <sup>4</sup> Korean Community Service Center of Greater Washington, Annandale, The United States of America

**Abstract: Statement of purpose:** Due to cultural and psychosocial barriers, immigrant women prefer to exhaust informal resources, including religious leaders, before seeking professional help for intimate partner violence (IPV). Based on research and theory, we used Intervention Mapping to create a virtual simulation training (4 modules, 20 minutes each) for Korean American religious leaders on primary, secondary, and tertiary IPV prevention in their congregation. This presentation discusses the challenges that the COVID-19 pandemic presented to study participation and the evaluation of this intervention.

**Methods/Approach:** During 2020, we evaluated the intervention in a randomized trial (n=100) using online surveys (baseline, 3-month, 6-month). When the first stay-at-home order was issued in mid-

March, 95% of participants had finished the baseline survey. However, 53% of the intervention group was still completing the intervention with others at various study stages. The 6-month survey included questions about the impact of COVID-19.

**Results:** The online survey and intervention facilitated participation in the study—47%, and some participants had extra time because church services were closed—27%. However, COVID-19 had numerous adverse effects on program participation and emotional functioning: difficulty answering application questions due to lack of interaction with parishioners—33%, being too busy to participate fully—11%, overwhelmed—23%, uncertain about their church's future—51%, financial strain—30%, unable to invite community organizations to educate the congregation on family violence—60%, reduced opportunities to apply new skills learned from the intervention—45%.

**Conclusions:** The virtual simulation and online data collection facilitated the trial's completion, but the toll of the pandemic reduced opportunities to demonstrate new skills.

**Significance and Contributions to Injury and Violence Prevention Science:** Online interventions and evaluations are a safe way to deliver an intervention during a pandemic. The information gathered about the pandemic's emotional and practical impact was fundamental to understanding the program's impact.

**TweetHandle:** In the midst of COVID-19, virtual simulation training for religious leaders to prevent intimate partner violence in immigrant communities can be a creative solution to deliver prevention programs. However, COVID-19 had an emotional toll on them and their parishioners and reduced opportunities to demonstrate new skills.

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## 0065

“They only come after the Black kid”: Understanding the perceptions of discipline disparities among school staff, parents, and students of color

T Jahangir<sup>1</sup>, K Piper<sup>1</sup>, M Ash<sup>1</sup>, A Elder<sup>1</sup>, T Renfro<sup>1</sup>, M Ramirez<sup>2</sup>, B Woods-Jaeger<sup>1</sup>

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**Abstract: SOP:** Black, Hispanic/Latino, and Native American students are more likely than White students to face harsher disciplinary policies and practices in schools<sup>1</sup>. Such institutional-level policies interact with micro-level forces of racism, increasing the likelihood of race-related traumatic stress<sup>2</sup>. This study aimed to characterize the experiences of discipline disparities, based on the perspectives of parents/guardians, staff, and students of color. Findings informed the adaptation of a culturally-responsive school-based intervention to address race-related traumatic stress.

**Methods/Approach:** Nine focus groups were conducted with parents/guardians ( $n=12$ ), school staff ( $n=27$ ), and students of color aged 11-14 years ( $n=24$ ) from 12 schools to inform the adaptation of

the intervention. Participants were asked open-ended questions about trauma, racism, school support, and intervention recommendations. For this study, transcripts were coded and thematically analyzed to identify factors related to racial disparities in discipline.

**Results:** Racial disparities in disciplinary norms and policing in schools were the two primary themes identified. Parents discussed punitive disciplinary responses to typical behavior, and the resulting family mistrust. Students and staff identified and compared experiences in disciplinary action among students, noting that Black students were disciplined more harshly, relative to White students. Participants also recommended greater parental involvement in disciplinary decisions, conflict de-escalation in classrooms to prevent further disciplinary action, and mitigating interpersonal racism and stereotypes.

**Conclusion:** Interventions aimed at reducing school violence among students of color should address race-based traumatic stress related to disparities in school disciplinary norms, expectations, and actions. Our findings suggest the need to prioritize cultural humility among teachers and staff, alongside stronger school and family relationships.

**Significance/Contribution:** Discipline disparities correlate with disparities in academic attrition, emotional/behavioral problems, violence victimization, delinquency, incarceration, and recidivism<sup>3</sup>. Understanding stakeholder perspectives and experiences surrounding discipline disparities can inform targeted interventions designed to address the consequences of race-based traumatic stress, discrimination, and violence disparities in schools.

**TweetHandle:** The latest research on institutional determinants of health and #violence prevention: View the #SAVIR2021 recorded e-presentation by Tasfia Jahangir from @EmoryUniversity: "Understanding the perceptions of discipline disparities among school staff, parents and students of color". <Link>

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**0066**

Firearm Injury among VA Healthcare-Using Veterans by Region and Rurality

R Hood<sup>1</sup>, B Hooker<sup>1</sup>, T Gilbert<sup>1</sup>, S DeFrancesco<sup>1</sup>, L Maxim<sup>1</sup>, K Carlson<sup>1</sup>

<sup>1</sup> U.S. Department of Veterans Affairs, Portland, The United States of America

**Abstract:** Purpose: Veterans are more likely to own firearms and have a higher risk of fatal firearm injury than non-Veterans. The patterns of Veterans' fatal and nonfatal firearm injury may vary by region and by rural versus non-rural residence. Research is needed to inform the development of culturally-appropriate firearm risk reduction programs for Veterans who use Department of Veterans Affairs (VA) healthcare.

Methods: Using VA administrative data, we examined firearm injury rates among VA healthcare-using Veterans from 2010-2019, comparing Veterans by state and by rural/non-rural residence (a single state, Oregon, is presented here). Firearm injuries were identified and categorized by intent using International Classification of Diseases diagnosis codes. We examined injury circumstances by conducting electronic health record chart reviews.

Results: Among a national cohort of 9.8 million Veterans, 11,380 received care for firearm injuries, with 207 occurring among Veterans in Oregon. Rural Veterans had a higher rate of firearm injuries than non-rural Veterans in Oregon (30.2 versus 22.4 per 100,000 Veteran-years, respectively), but not nationally (24.0 versus 24.5). Unintentional firearm injuries were treated more frequently than intentional injuries. In Oregon, rates of unintentional injury were higher among rural than among urban Veterans (23.7 and 15.6); nationally, rates were similar (16.4 and 15.5). Preliminary review of twenty-eight Oregon Veterans' (n=15 rural; n=13 non-rural) charts revealed that most of these injuries were caused by the patient unintentionally pulling the trigger or dropping their own handgun during cleaning/routine firearm maintenance.

Conclusion: Patterns of firearm injury treated in the VA healthcare system vary by region and rurality. Understanding these differences can aide prevention efforts.

Significance: Analyses of rates, patterns, risk factors for, and circumstances surrounding firearm injuries among VA healthcare-using Veterans by region and rurality can help reduce knowledge gaps and inform risk reduction efforts by the VA and other healthcare and public health systems.

**TweetHandle:** Veterans are more likely to own firearms and have a higher risk of fatal firearm injuries than non-Veterans. With these results and findings, we hope to reduce knowledge gaps and increase risk reduction initiatives by the VA and healthcare systems.

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**0067**

Teen Dating Violence Policies within States, Summary of Policy Element Variation

H Rochford<sup>1</sup>, C Peek-Asa<sup>1</sup>, K Harland<sup>2</sup>, A Abbott<sup>2</sup>

<sup>1</sup> University of Iowa, Iowa City, The United States of America <sup>2</sup> University of Iowa College of Public Health, Iowa City, The United States of America

**Abstract:** Statement of Purpose:

We provide thorough description of Teen Dating Violence (TDV) policies' variation to position future research efforts to understand what is driving policy variation and how policy components impact outcomes.

### Methods:

We developed and applied an abstraction form to measure 7 TDV policy components: (1) definitions, (2) requirements for district policy, (3) guidelines for review, (4) district policy content, (5) student dating violence curricula, (6) staff dating violence training, and (7) protections for victims. Descriptive figures and statistics were generated on all policy scores, and on individual policy score changes.

### Results:

Krippendorff's alpha for inter-rater reliability was 0.88.

Sixty-one related policies of 30 states were identified and abstracted. Thirty of these were original policies, 31 were revisions of previous policies enacted by 17 states.

Out of a possible 63, the mean score of original policies was 15.4 (0.86 SE), median 16.1, range 4.0-23.0. Of the 31 policy updates/revisions, 13 improved the state policy score, 3 reduced it, 15 were score neutral.

The mean score of the currently active policies was 16.9 (0.71 standard error), median of 17.0. All section scores improved slightly relative to original policies except for section (5).

### Conclusions:

While there has been slight collective improvement since the origin of TDV policies in 1992, there remains tremendous opportunity for improvement policy presence and component caliber amongst all TDV policies of US states.

### Significance:

Despite TDV's status as a public health co, it is not understood why only select states have implemented supportive policy, why existing policies vary in terms of composition, nor what relationship exists between TDV policy presence/quality and outcomes. The findings of this work are necessary to position future research efforts to elucidate what is driving policy variation and what policy levers exist for promoting successful prevention of and response to instances of TDV.

**TweetHandle:** Understanding the current Teen Dating Violence (TDV) Policy Landscape -- a precondition to positioning states to act on policy levers that promote the successful prevention of and response to instances of TDV.

I have no twitter handle. My organization's twitter handle is @UIowaCPH.



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0068

**Drowning Knowledge and Perceptions are Key Factors associated with Reported Swimming Pool Supervision Behavior for Caregivers of Toddlers in the U.S.**

M Johnson<sup>1,2</sup>, E Boriack<sup>1</sup>, C McConnell<sup>1</sup>, S Williams<sup>1</sup>, J Naiditch<sup>1</sup>, K Lawson<sup>1,3</sup>

<sup>1</sup> Dell Children's Medical Center, Austin, The United States of America <sup>2</sup> University of the Incarnate Word, San Antonio, The United States of America <sup>3</sup> University of Texas, Austin, The United States of America

**Abstract:** Statement of Purpose  
Drowning is the leading cause of unintentional injury-related death for toddlers within the U.S. Caregiver supervision is an important layer of protection against drowning, yet supervision is often inadequate. The aim of this study is to understand factors associated with self-reported caregiver supervision behavior at the pool when confronted with distractions.

Methods/Approach

A survey was conducted using the online Amazon MTurk platform. Participants were over 18 years old and were the caregiver for a 1-4 year old. The survey asked about demographics and background, assessed drowning knowledge, and rated agreement with statements about arm's reach supervision and distraction-related supervision behavior. Data were analyzed for 650 U.S. residents using a multivariate linear regression to identify predictors of distraction-related pool supervision behavior scores.

Results

Caregivers with more drowning knowledge ( $p < 0.001$ ) and who showed the highest agreement with arm's reach supervision ( $p < 0.001$ ) were more likely to report attentive supervision behavior. Caregivers who reported always using a flotation device for their toddler reported more attentive supervision ( $p = 0.004$ ). Although toddler age was not a predictor, caregivers who reported fewer swim skills for their toddler reported more attentive supervision ( $p < 0.001$ ). Additional characteristics related to inattentive supervision were lower income ( $p = 0.032$ ), having received water safety advice from a pediatrician ( $p = 0.0001$ ), and having reported an impairment that could limit their ability to supervise a toddler ( $p = 0.006$ ). Caregivers with home pools were less likely to report attentive supervision ( $p = 0.019$ ).

Conclusions

This study offers information about factors that impact caregiver supervision behavior. The results support the usefulness of drowning education initiatives.

Significance and Contributions to Injury and Violence Prevention Science  
This study highlights how water safety knowledge and perceptions are drivers of supervision behavior and subsequent drowning risk.

**TweetHandle:** Dell Children’s Medical Center’s new Water Safety and Drowning Prevention program has new research suggesting that water safety knowledge and perceptions impact how attentive caregivers are when supervising toddlers in a swimming pool.

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0069

**“It’s just really tricky business”: Challenges and Possibilities Encountered in a Qualitative Study of Bias-Based Bullying Experiences**

Y-S Nam<sup>1</sup>, C Brown<sup>2</sup>, A Gower<sup>3</sup>, M Eisenberg<sup>3</sup>, M Ramirez<sup>4</sup>

<sup>1</sup> *University of Minnesota School of Public Health, Minneapolis, The United States of America* <sup>2</sup>

*University of Minnesota Department of Pediatrics, Minneapolis, The United States of America* <sup>3</sup>

*University of Minnesota Department of Pediatrics, Minneapolis, The United States of America* <sup>4</sup>

*University of Minnesota School of Public Health, Minneapolis, The United States of America*

**Abstract: Statement of Purpose:** The purpose of this presentation is to describe the variety of qualitative approaches used to explore experiences of bias-based bullying (BBB) - bullying based on personal characteristics (e.g., race, gender identity, body weight). We present the challenges and strategies of combining dyadic interviews with 13 youth (ages 11-18) and their parents, 4 youth focus groups, and 7 school-team interviews.

**Methods/Approach:** This presentation will provide an overview of the study design, recruitment strategies, compare and contrast qualitative approaches, and outline a successful framework for future BBB qualitative studies.

**Results:** Challenges included 1) lack of familiarity with the term bias-based bullying, 2) schools were reluctant to discuss bias-based bullying incidences, and 3) recruitment of dyadic interviews generated unbalanced data from parents and youth depending on who was targeted for recruitment. Strategies used to overcome these challenges included iterative adaptations of the interview guide to include specific types of bias-based violence (e.g., racism). Reassurance of confidentiality and providing hypothetical examples of BBB informed by youth focus groups facilitated sensitive discussions with school personnel. Adding in-person recruitment at youth-focused events accessed adolescents with a wide range of BBB experiences.

**Conclusion:** Reducing BBB is critical to improving the health and wellbeing for all youth. Qualitative methods can foster new insights and yield rich data to enhance the understanding of BBB as well as other challenging life experiences among marginalized youth.

**Significance and Contributions to Injury and Violence Prevention Science:** With the lessons learned from this study, these methods can be used to investigate other unique experiences in marginalized populations. This research showcases how a combination of rigorous qualitative methods can foster

a greater understanding of student, school, and parent perspectives on bias-based bullying, which is essential to the development of more effective prevention and intervention programs to protect vulnerable youth from bullying.

**TweetHandle:**

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**0070**

Association between Clinical Injury Characteristics and Health-Related Quality of Life in Traumatic Brain Injury Patients in Eastern Europe and Central Asia

D Corry<sup>1</sup>, C Peek-Asa<sup>2</sup>

<sup>1</sup> *University of Iowa College of Public Health, Iowa City, The United States of America* <sup>2</sup> *University of Iowa College of Public Health, Iowa City, The United States of America*

**Abstract: Statement of Purpose:** Traumatic brain injury (TBI) can affect later health-related quality of life (HRQoL), but there is little research to assess clinical characteristics that may improve or hinder HRQoL among TBI patients in low- and middle-income countries (LMICs) in Europe and Asia. This research aims to assess how clinical characteristics of TBI are associated with differences in HRQoL in patients from LMICs in Eastern Europe and Central Asia.

**Methods:** This study uses data from the International Collaboration to Increase Traumatic Brain Injury Surveillance in Europe (INITIatE), an NIH-funded project focusing on improving TBI research in Armenia, Georgia, and Moldova. At the time of the injury, data were collected on patient demographics, characteristics of the injury event, symptoms and diagnoses post-injury, and inpatient interventions. At discharge, patients completed the five-level, five-dimension EuroQol (EQ-5D-5L), a survey intended to measure HRQoL across five dimensions: mobility, self-care, usual activities, pain/discomfort, and anxiety/depression. Clinical injury characteristics and HRQoL were compared using univariate analyses and will be further compared using multivariable logistic regression analysis.

**Results:** Univariate analyses found that posttraumatic amnesia, skull fracture, traumatic cerebral edema, hematoma, use of antiseizure medications, daily therapy intensity level, country of residence, employment status, and alcohol use prior to injury were all significantly associated with differences across all dimensions of EQ-5D-5L. Preliminary multivariate models indicate that these characteristics remain significant for overall scores, with various permutations predicting the five component scores.

**Conclusions & Significance:** While conclusions from multivariable analyses are pending, a few important clinical injury characteristics are univariately associated with differences in HRQoL among TBI patients in three LMICs in Eastern Europe and Central Asia. This research will help medical professionals in these three countries to more effectively care for potential injuries with an aim to preserve HRQoL for the injured patients.

**TweetHandle:** As a doctoral student in epidemiology with @UlowaCPH and @UIIPRC, @DanielCorryMPH researches how clinical injury characteristics are associated with health-related quality of life after discharge among traumatic brain injury patients in Eastern Europe and Central Asia.

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0071

## HEAD INJURIES AS RESULT OF ROAD ACCIDENTS AMONG POPULATION

S Cociu<sup>1</sup>

<sup>1</sup> "Nicolae Testemitanu" State University of Medicine and Pharmacy, Chisinau, The Republic Of Moldova

### **Abstract:**

**Statement of purpose.** The purpose of this study was to assess the burden of road accidents having as a consequence traumatic brain injury in relationship with demographic characteristics and provide appropriate suggestions for its prevention.

**Methods/approach.** A prospective study was performed from March, 1 to August 31, 2019. It was used the data from the TBI Registry completed for 368 patients (201 adults, 167 children) with a diagnosis of traumatic brain injury reported at the Emergency Departments within 2 republican hospitals. The Redcap electronic tool was used to upload the data and Epi Info 7 for data analyzes. The ethics committee's approval has been obtained.

**Results.** There have been 113 (30,7%) cases of TBI which reported traffic-related mechanisms; aged between 0-79 years old, of which 71,7% were male and 28,3% female. In 90,5% accidents occurred in the urban area and reached the hospital by ambulance in 97,3%. Most cases were among children (44,2%), followed by the age group of 30-49 years old (18, 6%). All cases were unintentionally and 2,7% as a work-related injury. In 78,8% of cases, accidents take place in the transport area (public highway, street, or road), mostly among children (35,4%). Most cases were in June (20,4%), between 2pm-6pm (29,2%) and peak hours of addressed for medical help being 2pm-4pm (16,8%). There have been 43,4 % pedestrian, 36,3% passenger car, 11,5 % pedal cycling, 7,1% motorcycle, 1,8% public transport; as drivers only 23,9%.

**Conclusion.** The result underlines the main affected age group, place, and role of the persons involved in road accidents, which will be useful resources for conducting information campaigns among the high-risk groups.

**Significance/Contribution to Injury and Violence Prevention Science.** The obtained data will be included in the implementation of comprehensive measures in road trauma prevention and to develop information- education campaigns on road safety.

**TweetHandle:**

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**0073**

Global road safety: analysis of Global Status Reports on Road Safety

I Bari<sup>1</sup>, H Rosen<sup>1</sup>, N Paichadze<sup>1</sup>, M Peden<sup>2</sup>, J Monclus Gonzalez<sup>3</sup>, A Hyder<sup>1</sup>

<sup>1</sup> *The George Washington University, Washington DC, The United States of America* <sup>2</sup> *The George Institute for Global Health, Imperial College, London, United Kingdom* <sup>3</sup> *Fundación MAPFRE, Spain, Spain*

**Abstract:**

**Statement of Purpose:** The purpose of this presentation is to evaluate progress towards achieving the Decade of Action for Road Safety by analyzing the results of three Global Status Reports on Road Safety.

**Methods:** The analysis was based on the data from the three Global Status Reports on Road Safety with global level data from 2010, 2013, and 2016. Descriptive analyses and t-tests were conducted to evaluate the past and current trends in road traffic deaths and countries' progress in achieving key road safety indicators. Data from 160 countries that consistently reported their statistics for all three global status reports were included in the analysis.

**Results:** A slight decline in road traffic deaths during the past decade was observed, however, current global deaths were found to be unacceptably high standing at a rate of 16.4/100,000. This decline considerably varied between countries and was highly dependent on the income level of the country, with deaths significantly high in low- and middle-income countries (LMICs) when compared to high-income countries (HICs). In terms of progress on countries' progress in achieving key road safety indicators, the same pattern was observed where HICs having emplaced most of the recommended rules, while low rates of achievement were observed in LMICs.

**Conclusion:** Despite the global efforts, RTIs remain disproportionately high in LMICs and progress in achieving global road safety indicators is slow.

**Significance/Contribution to Injury and Violence Prevention Science:** This analysis highlights the need for continued efforts towards promoting road safety especially in LMICs and identifies areas for improvement that must be addressed for the new Decade of Action for Road Safety from 2021-2030.

**TweetHandle:**

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**0074**

## Epidemiology of Falls in Young Children

E Omaki<sup>1</sup>, W Shields<sup>1</sup>, E McDonald<sup>1</sup>, P Delgado<sup>1</sup>, R Stefanos<sup>1</sup>, B Solomon<sup>2</sup>, A Gielen<sup>1</sup>

<sup>1</sup> Johns Hopkins Center for Injury Research & Policy, Baltimore, The United States of America <sup>2</sup> Johns Hopkins Department of Pediatrics, Baltimore, The United States of America

### **Abstract:** Statement of Purpose

Falls are the leading cause of emergency department visits among children less than five years old. Parents are encouraged to supervise their children and provide a safe environment to prevent injuries, but there are few evidence-based interventions to prevent child falls. This analysis aimed to identify factors related to unintentional nonfatal fall injuries in children under five.

### Methods

Data about children under five years who experienced a fall in 2015 were extracted from the National Electronic Injury Surveillance System All Injury Program. The case narratives were reviewed and coded for what the child fell from, fell onto, the fall action (i.e. tripped, dropped, rolled), and the precipitating event leading up to the fall.

### Results

In 2015, an estimated 121,531 infants (<12 months), 443,867 toddlers (1-2 years) and 326,382 preschoolers (3-4 years) were treated in an emergency room for an unintentional non-fatal fall. Among infants the leading source of falls was from beds (36%) primarily due to rolling from a laying position onto the floor (90%). Toddlers most often fell from a standing position (23%), from the stairs (17%) or from the bed (17%). Falls from the stairs were primarily due to the child slipping or tripping (84%), but 5% were dropped, such as by an adult carrying them. Before falling from the bed, toddlers were jumping more than any other activity (52%). Among preschoolers, most falls occurred from a standing position (27%) or play equipment (16%). Falls from standing position usually occurred while the child was running (62%) or bathing (18%). Falls from the bed were usually preceded by jumping (62%).

### Conclusion

Infants primarily fall from beds; toddlers and preschoolers fall most often from standing by slipping or tripping.

### Significance

Understanding the circumstances of fall injuries can help identify new opportunities for prevention and intervention.

**TweetHandle:** @EliseOmaki @JohnsHpkinsCIRP

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**0075**

Rising rates: Understanding trends in suicide deaths in North Carolina by race/ethnicity and age group, 2009-2018

S Geary<sup>1</sup>, S Proescholdbell<sup>1</sup>, T Norwood<sup>1</sup>

<sup>1</sup> North Carolina Division of Public Health, Raleigh, The United States of America

**Abstract: Statement of Purpose**

Suicide rates have increased between 2009-2018 in NC from 13.9 to 16.0 per 100,000 (n=1,085 and 1,463). Rates remain highest among males, non-Hispanic (NH) whites, and those 45 and older. This project sought to understand differences in trends among additional populations.

**Methods**

NC Violent Death Reporting System data were used to identify suicide deaths among residents ages 10 and older between 2009-2018. Three-year rolling rates were calculated by race and age group. Data were combined across the study period to assess differences mechanisms.

**Results**

There were 13,101 suicides between 2009-2018 (86.5% NH white, 8.3% NH black, 2.8% Hispanic, and 2.5% NH American Indian, Asian, or other/unknown race). The 2016-2018 suicide rate was highest among NH whites ages 45-54, 55-64, and 35-44, followed by NH American Indians ages 15-24 (26.7, 25.3, 24.3, 21.9, and 20.3 per 100,000 respectively). Rate increases were highest among youth and young adults across all racial/ethnic groups. Although rates were low among NH white and black youth ages 10-14 (3.1 and 2.7 per 100,000 for 2016-2018), they experienced the greatest percent increase (148.0% and 115.6% respectively), followed by NH Asians ages 15-24 (90.7% increase), Hispanics ages 24-34 (57.2% increase), and NH blacks ages 15-24 (54.5% increase). Mechanism differed by age and race, though firearms were most common (22.2%-80.8%).

**Conclusions**

Although most suicides occur among NH whites, rates of suicide are increasing among youth across all groups, and more rapidly among youth of color. Prevention efforts are needed to address suicide among these populations that incorporate culturally appropriate messaging and variations in mechanisms.

**Significance and Contributions to Injury and Violence Prevention Science**

Analysis of multiple demographics at the state level is often overlooked due to small numbers. Use of rolling rates and other analytical methods are useful and necessary to understand disparities across demographic groups.

**TweetHandle:**

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0076

Text- and Chat-Based Hotlines: A Novel Approach to Provide Child Maltreatment-Related Support

L Schwab-Reese<sup>1</sup>, C Short<sup>2</sup>, L Jacobs<sup>3</sup>, M Fingerma<sup>3</sup>

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**Abstract: Statement of Purpose:** The purpose of this study is to describe how people seek child maltreatment-related support from a text- and chat-based crisis hotline. Ultimately, this study will provide the foundation for the Childhelp National Child Abuse Hotline practice model and training.

**Methods/Approach:** We conducted a qualitative content analysis of 300 conversations from a text- and chat-hotline, selected through stratified random sampling. After the first round of coding was complete, we compared the characteristics of the initial sample to all conversations. Then, we purposefully sampled additional conversations from underrepresented groups, including perpetrators, young people, and maltreated children.

**Results:** We identified six groups who seek support, as defined by their relationship to the maltreated child: family members, peers/friends, maltreated children (self), distressed children (self), other known adults, and persons unknown to the child. Many people used the hotline as a source of information for referral to CPS. Children often sought resources for coping with maltreatment or supporting a friend who was being maltreated.

Overall, the conversations progressed through five stages: introduction/clarification of hotline role, exploring the issue, problem-solving, working towards a resolution, and conclusion. Across these stages, crisis counselors used empathy/active listening to build rapport.

**Conclusions:** Text- and chat-based hotlines may be one way to reach young people and others who need child maltreatment-related support. In a recent survey of text- and chat-based users, 90% of chat-based and 50% of text-based hotline users reported that they would not call a phone hotline, suggesting that this service fills a critical gap in available services.

**Significance to the Field:** As text- and chat-based hotline services become increasingly popular, it is critical to understand how to provide adequate and appropriate support to individuals seeking child maltreatment-related help.

**TweetHandle:** Many adults text or chat with the @Childhelp National Child Abuse Hotline to learn about CPS referral processes. In contrast, young people tend to seek resources for coping with maltreatment or supporting friends who are maltreated.



0077

Mental Health among Firefighters: Understanding the Mental Health Hazards, Treatment Barriers, and Coping Strategies

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**Abstract:**

### Abstract

**Statement of Purpose:** The purpose of this qualitative study is to explore potential risk factors, treatment barriers, and coping mechanisms that may influence mental health outcomes in Minnesota firefighters.

**Methods/Approach:** This study employed a two-phased, sequential qualitative design consisting of in-depth interviews followed by focus group discussions with both fulltime and volunteer firefighters in Minnesota. Fifty-two interviews were conducted with open-ended questions designed to identify themes and main areas of concern about Minnesota firefighters' mental health, then presented to focus groups (n=10, with 3-15 participants per group) to obtain feedback and initiate open discussion. Audio recordings were analyzed for codes and themes developed after each interview and focus group session.

**Results:** The major contributor to mental health stress perceived by Minnesota firefighters involves the personal impact of the call. Coping mechanisms varied among institutions and individuals, and included Employee Assistance Programs, Critical Incident Stress Management, departmental debriefs, peer support groups, family, and exercise. However, barriers to treatment were equally as diverse, and included departmental and individual stigma, lack of personal and institutional support, and lack of knowledge about mental health.

**Conclusions:** Our study identified potential pathways to mental health conditions in firefighters. The findings should be leveraged to improve current strategies to protect the health and well-being of firefighters.

**Significance and Contributions to Injury and Violence Prevention Science:** Major themes identified contribute to literature gaps regarding the perceived factors influencing psychological injuries in firefighters, in addition to the perceived barriers to treatment that would mitigate or prevent these injuries. However, the burden to each of the concepts, themes, and mental health issues are currently being assessed in a statewide survey completed by Minnesota firefighters. Study findings warrant future research to consider assessing the mental health in firefighters from other states,

regionally, nationally, and globally.

**TweetHandle:**

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**0078**

Understanding Implementation of Child Death Reviews in the United States

Understanding Implementation of Child Death Reviews in the United States

E Omaki<sup>1</sup>, W Shields<sup>1</sup>, R Rousch<sup>1</sup>, A Collier<sup>2</sup>, S Frattaroli<sup>1</sup>

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*National Center for Fatality Review and Prevention, Okemos, The United States of America*

**Abstract:** Background

Child death review (CDR) teams provide insight into why child deaths occur by conducting systematic investigations to identify missed opportunities to prevent each death under review and recommend strategies to prevent future deaths. Investments in the CDR system to date have prioritized building the system and expanding participation. Attention to implementation to identify best processes and practices is now needed.

Methods

We conducted in-depth interviews with 19 CDR team coordinators to understand how their teams are organized, the process for reviewing a death and issuing prevention recommendations, and how the recommendations are used to impact child death in their jurisdictions.

Results

Respondents stressed the importance of relationships with their internal and external partner organizations. Strong relationships facilitate data sharing, CDR team participation, and being able to have an impact on the community. Some respondents were challenged to articulate how CDR has impacted child death in their communities. While almost everyone stated that there had been a decline in child deaths over the years, few respondents could quantify how or point to an example where the results of the CDR meetings prevented child injury and rarely reported being engaged in translating the recommendations into action.

Conclusions

CDR teams provide a strong foundation for identifying local vulnerabilities for child injury and death, but lack resources to act on recommendations.

Significance

New strategies are needed to help bridge the gap between the work of CDR teams and injury prevention policy and practice.

**TweetHandle:**

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**0079**

Sport-Related Concussion in Practice, Competition, and After Collision Rule Changes in Michigan High School Football

A Bretzin<sup>1</sup>, D Wiebe<sup>1</sup>, C Tomczyk<sup>2</sup>, T Covassin<sup>2</sup>

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**Abstract: Statement of Purpose:** Estimate rates of sport-related concussion (SRC) in high school football and evaluate a rule change over 5 seasons.

**Methods/Approach:** The Michigan High School Athletic Association (MHSAA) surveillance system records total numbers of participating athletes and circumstances of each SRC occurring in athletic-sanctioned events. Across five seasons, MHSAA progressively limited time for collision practices. We estimated player-days exposed as the total number of players multiplied by the total number of possible practices (11 weeks, 4 days each) or competitions (9 weeks, 1 day each) each regular season. Rate ratios (RR) and 95% confidence intervals (CI) compared practice and competition SRC, and compared each season relative to the most recent season (2019/20). Annual SRC rates modeled by year (2015/16-2018/19, 2019/20) and event (practice, competition) using Poisson regression estimated rate difference-in-differences and 95% CI.

**Results:** The overall football SRC rate was 0.82/1,000 player-days. The greatest proportion of practice SRC occurred during the first two weeks of the season (preseason;40.6%) and competition SRC occurred between weeks 5-9 (63.5%). The competition SRC rate (3.10/1,000 player-days) was higher than practice (0.35/1,000 player-days; RR:8.87, 95%CI:8.47,9.29). For practice SRCs, risk of SRC was lower in 2019/20 than 2015/16 (RR:0.85, 95%CI:0.75,0.97) and 2016/17(RR:0.84, 95%CI:0.74,0.95). The competition rate was lower in 2019-20 than 2015-16 (RR:0.90, 95%CI:0.82,0.98). However, the difference-in-differences analysis for practice vs. competition in the 2019/20 season vs. the 2015/16-2018/19 seasons was null (-0.015, p=.958).

**Conclusions:** SRC rates in football were higher in competition than practice. The reduction noted in practice SRC in 2019/20 compared to prior seasons was not greater than the reduction observed during competition.

**Significance and Contributions to Injury and Violence Prevention Science:** Highlighting when SRC occur throughout an athletic season may focus preventative efforts. The strategy of progressively limiting collision practices did not alone reduce SRC in Michigan high school football.

**TweetHandle:** Highlighting when SRC occur throughout an athletic season may focus preventative efforts. The strategy of progressively limiting collision practices did not alone reduce SRC in high school football. @bretzina @DouglasWiebe @CPTomczykATC @PennInjury

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0080

Do Traditional Masculinity Attitudes Moderate Relationships between Cumulative Violence Experiences and Marijuana/Alcohol Use among Black Young Men in Baltimore, Maryland?

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**Abstract:** Statement of Purpose: To examine relationships between cumulative violence (CV) experiences and marijuana/alcohol use among Black young men and to test whether relationships are modified by traditional masculinity attitudes.

**Methods:** We examined cross-sectional survey data from 100 Black men ages 18-24 recruited from community organizations in Baltimore, MD. We measured CV as lifetime intimate partner violence (IPV), reproductive coercion (RC), and child abuse (CA). Associations between CV and marijuana/alcohol use were tested using unadjusted and adjusted logistic regression models. Moderating effects of masculinity norms were examined by adding a product term to the final multivariable model and by examining stratum specific estimates.

**Results:** Most men (81%) experienced one or more types of violence. We observed positive trends between CV experiences and marijuana/alcohol use in unadjusted associations (OR 1.667, 95% CI 0.595, 4.665) and adjusted associations (OR 1.409, 95% CI 0.438, 4.534) but neither were statistically significant. Masculinity attitudes did not modify the relationship with statistical significance (p-value = 0.504). However, in bivariate logistic regression analyses stratified by masculinity attitudes, there were increased odds of marijuana/alcohol use among men with high

traditional masculinity attitudes who experienced CV (OR 2.231, 95% CI 0.549, 9.061) and lower odds among men with low traditional masculinity attitudes who experienced CV (OR 0.945, 95% CI 0.159, 5.634).

**Conclusions:** Our analyses did not reach statistical significance; however, the odds of marijuana/alcohol use among Black young men who experienced CV had an increased trend. There was also evidence that traditional masculinity attitudes moderate this relationship.

**Significance/Contributions to Injury and Violence Prevention Science:** Black young men's CV experiences could be a potentially important predictor for substance use. Screening for all types of violence in clinical settings is imperative. Gender transformative interventions designed to shift attitudes about masculinity norms should also be considered in the context of men's violence experiences.

**TweetHandle:** This study suggests traditional masculinity attitudes may moderate relationships between cumulative violence experiences and alcohol/marijuana use among Black young men.

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0081

### **Alcohol Industry Involvement in Road Safety NGOs**

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<sup>1</sup> *Johns Hopkins Bloomberg School of Public Health, Baltimore, The United States of America*

**Abstract: Statement of Purpose:** Road crashes are a major cause of death among all age groups and the leading cause of death among persons 5-29 years, according to the World Health Organization. One key risk factor is drink-driving. While the world's leading beer, wine and spirit producers have pledged to combat harmful drinking, there is increasing evidence showing the alcohol industry's use of strategies to promote solutions that limit impact on sales. One strategy is partnerships with road safety stakeholders. Given this, the primary objective of this study is to understand the extent to which the alcohol industry is involved with road safety NGOs .

**Methods/Approach:** A review from August to November 2020 was conducted to assess the alcohol industry's involvement with all NGOs (n=247) in 92 countries affiliated with the Global Alliance of NGOs for Road Safety. Financial forms, press releases, annual reports, social media and other resources were analyzed.

**Results:** Out of 247 NGOs, eight showed clear ties to the alcohol industry and seven were found to have questionable or potential ties. No functioning websites were found for 60 of 247 NGOs, but the majority had some social media presence.

**Conclusions:** Findings underscore the need for the road safety community to generate consensus regarding involvement of the alcohol industry and suggest the need for more transparency on behalf

of the alcohol industry's road safety initiatives and relationships with NGOs. Limitations exist in assessing involvement solely through online means as much involvement may be more private. Further exploration is needed to better assess the alcohol industry's involvement and motives, as well as develop strategies to provide support to NGOs in implementing their mission independent of industry interference.

**Significance:** Road policies will be more evidence-based if free from conflict of interests posed by the alcohol industry, leading to more lives saved.

**TweetHandle:** More exploration is needed to better assess the alcohol industry's involvement with road safety NGOs and their policies and programs. These NGOs need strategies and support to operate independently of industry interference. @HopkinsINJURIES

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## 0082

Parent perceptions of the "Boost 'em in the Back Seat" intervention: A mixed methods evaluation

E PUTNAM<sup>1</sup>, A Edwards<sup>2</sup>, E Gordon<sup>3</sup>, C Springer<sup>3</sup>, T Dobyns<sup>3</sup>, K England<sup>2</sup>

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**Abstract: Statement of Purpose:** It is recommended that children over age eight continue to use a booster seat until they fit properly into an adult seatbelt. "Boost 'em in the Back Seat" is a video intervention informing parents about this recommendation and is empirically supported to increase booster seat use. The present study aimed to evaluate key elements of the video.

**Methods/Approach:** Parents participated in one of two study arms: virtual focus groups (3 groups, n = 23) or an online survey (n = 28); both examined knowledge of booster seat recommendations and perceptions of the "Boost 'em in the Back Seat" video. All participants viewed the video and provided feedback. Qualitative data from both study arms were analyzed using NVIVO software and common theme analysis, and descriptive survey data were analyzed using SPSS.

**Results:** Almost half of survey parents (42.9%) were unaware of current booster recommendations. Thematic analysis revealed that parents found the narrative approach of the video impactful. Parents preferred male expert's perspectives, found some medical language too technical, and had mixed reactions to the realistic crash scene. Parents felt the length of the video (4-minutes) was too long, but felt that the novel information, seeing the incident from the mother's viewpoint, inclusion of local talent/settings, and the cinematography distinguished the video from others.

**Conclusions:** Parents find the "Boost 'em in the Back Seat" video impactful and provided helpful feedback regarding how the video could be modified such as excluding certain actors, shortening the introduction, and using less technical language.

**Significance and Contributions:** Parent feedback was helpful in determining which elements of the video are essential for persuasive effect. This will inform how to best translate the message to other uses, such as static media or a shorter video, as we continue to work toward improving child occupant protection.

**TweetHandle:** Eastern Virginia Medical School study entitled *Parent perceptions of the "Boost 'em in the Back Seat" intervention: A mixed methods evaluation* evaluates key persuasive elements of an empirically supported video intervention for increasing booster seat use. Visit [carsafetynow.org](http://carsafetynow.org) to learn more!

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0083

### **Injuries prevention: from data needs towards effective strategies in Georgia**

[N Chkhaberidze<sup>1</sup>](#), E Burkadze<sup>1</sup>, K Axobadze<sup>2</sup>, M Kereselidze<sup>3</sup>, A Tsiskaridze<sup>2</sup>, N Chikhladze<sup>2</sup>

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#### **Abstract:**

**Objective:** Traumatic injuries account for significant global burden of disease, causing 9% of all deaths worldwide and substantial short- and long-term disability. Injury rates are disproportionately high in low- and middle-income countries (LMICs). However, despite the fact that more than 90% of injury related deaths occur in LMICs, most of the research comes from high-income countries. In spite of the overall impact and importance of the topic, emerging economies such as Georgia experience high injury rates yet have little research addressing incidence, characteristics, risk factors, and prevention strategies.

**Methods:** [The aim of this research was to describe the epidemiological characteristics of injury in two tertiary teaching hospitals in Georgia.](#) The data was extracted from the official database of the National Center for Disease Control and Public Health for 2018.

**Results:** A total of 1494 adults patients were admitted of whom 912 (61%) were males and 582 (39%) were - females. The highest prevalence was among the age group 25-44 years old (36%), followed by 45-64 years old (26%). The main mechanism of injuries were falls (61%) and road traffic incidents (22%). Over 17% of injuries resulted in death after hospitalization. These findings provide empirical bases for future studies. More research is needed to identify injury related factors useful for planning effective prevention strategies.

**Conclusion:** The study was conducted with the goal of providing the baseline data to policy makers and other stakeholders to help guide future research, policy and funding agendas.

**Keywords:** Injury, Epidemiological characteristics, Injury date, Prevention, Georgia

**TweetHandle:**

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0084

**PEDIATRIC HEAD INJURIES TREATED IN CHILDREN'S EMERGENCY DEPARTMENT FROM CHISINAU**

A Cazacu-Stratu<sup>1</sup>, S Cociu<sup>1</sup>, S Cebanu<sup>1</sup>, A Holostenco<sup>2</sup>

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**Abstract:**

**Statement of purpose.** The purpose of this study was to explore the particularities of TBI among children in the Republic of Moldova.

**Methods/approach.** A prospective study was conducted among children patients with TBI at the Republican Municipal Children's Hospital "Valentin Ignatenco". Were used data from the pilot TBI registry, from March, 1 – August 31, 2019. Data were uploaded using an electronic data collection tool - Red Cap and analyzed through Microsoft Excel, Epi Info 7. Data collection was performed by resident neurosurgery and a scientific researcher. The ethics committee's approval was obtained.

**Results:** There have been identified 167 cases of TBI in children aged between 0-17 years old, of which 109 (65,3%) male and 58 (34,7%) female; most cases being in the age group 0-6 years old 59 (35,3%), followed by a group of 10-14 years old 48 (28,7%). Mostly, the injury appears in urban area 161(96,4%). The major cause- falling 97(63,6%) and the most affected group-0-6 years old 44 (26,3%). In the second place, there were road accidents 50 (16,4%) with the most cases in the age group of 10-14 years old 16 (9,6%), followed by assault/violence 19 (18,7%). Most injuries occurred at home 45 (26,9%), followed by transport area 41 (24,6%), school education area 24 (14,4%). Most cases, registered in March 35 (21%), followed by June and August with 29 (17,4%), between 10.00-18.00 (65,3%), 20.00-22.00 (16,2%).

**Conclusion:** Data shows the most vulnerable age group, 0-6 years old, and 10-14 years old. The main mechanisms of TBI are falls and road accidents. The results of the study impose to develop prevention measurements for this target group.

**Significance/Contribution to Injury and Violence Prevention Science.** The main results obtained in the research will be included in the implementation of prevention actions and to development of specific activities for children.

**TweetHandle:**

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0085



Cross-Sectional study - The Prevalence and effects of Workplace Violence against medical staff in three hospitals of Tbilisi, Georgia

M Kareli<sup>1</sup>, N Pitskhelauri<sup>1</sup>

<sup>1</sup> *Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia*

**Abstract: Statement of Purpose:** Violence at work is present at all work environments however, healthcare workers are at greater risk and vast majority of cases go underreported. Existing scientific literature reveals that Workplace Violence (WPV) in health sector is very problematic in developing and transitional countries. Georgia as a developing country faces loads of human rights violation, including workplace violence, especially at health care sector, however at present time there are no accurate and reliable data available. The main aim of the study was to assess prevalence, magnitude, consequences and potential risk factors of WVP against Medical Staff in three hospitals of Tbilisi.

**Methods/Approach:** The cross-sectional study was conducted from May 2020 to August 2020 in three hospitals of Tbilisi. We used adapted and translated version of “Workplace violence in the health sector country case studies research instruments survey questionnaires”. After proving validity of the questionnaire, we distributed its online version. Statistical Analysis was performed in IBM SPSS Statistics 23. Fisher’s Exact Test was used for finding associations

**Results:** A total study population included 80 medical staff from three different hospitals of Tbilisi, Georgia. Medical staff had experienced different types of WPV, including: Verbal Threat or assault 61,5%, physical assault -7.5%, sexual harassment – 2.5% and sexual assault- 1.5%. 41% of study participants considered violence as part of their job and 29% considered as part of their profession.

**Conclusions:** Our study has indicated overall workplace prevalence against healthcare workers to be high in three hospitals of Tbilisi, Georgia.

**Significance:** Violence is preventable, first step in violence prevention is recognizing that WPV is real and is one of the safety and health hazard. Guidelines for preventing and managing WPV are essential, each hospital should have mandatory violence reporting system and violence prevention policy, medical staff should not feel that violence is tolerable.

**TweetHandle:** There is a high Workplace Violence Prevalence in Tbilisi, Georgia. Violence is preventable. Medical Staff deserves safe working conditions.

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**0086**

Mental Health in Formerly Incarcerated Black Men: A Systematic Mixed Studies Review

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<sup>1</sup> *University of Pennsylvania School of Nursing, Philadelphia, The United States of America*

**Abstract: Statement of Purpose:** The disproportionate incarceration rate of Black men in the United States (US) is associated with a multiplicity of individual and community-level health outcomes. This review aims to evaluate the state of scientific knowledge on the mental health of Black men who have experienced incarceration and identify how Black men released from incarceration describe their mental health upon re-entry.

**Methods/Approach:** This systematic mixed studies review used a sequential explanatory design incorporating quantitative and qualitative research. In June 2020, PubMed, CINAHL, PsycINFO, Social Work Abstracts, and Criminal Justice Abstracts were systematically searched. Of 538 articles identified, 22 met inclusion criteria as peer-reviewed original research, published in English from (2010-2020), relevant to the mental health of formerly incarcerated Black men in the US.

**Results:** Quantitative findings demonstrated significant associations between incarceration history and poor mental health, operationalized as higher levels of psychological distress, increased severity of depressive and PTSD symptoms, and delayed treatment of psychosis. Factors associated with this relationship included discrimination, negative police encounters, solitary confinement, and difficulty finding housing and employment. Four themes emerged from the qualitative synthesis including: (1) Social Determinants of Mental Health (2) Pushing Through Emotional Despair (3) Challenges to Health Care Engagement and (4) Gender, Race, and Intersectionality. Black men recently released from incarceration also described neighborhood violence as a contributor to poor mental health and barrier to mental healthcare.

**Conclusions:** This review affirms the pervasiveness of mental health concerns in formerly incarcerated Black men but illuminated several gaps in knowledge needed to support individual and community-level interventions.

**Significance/Contributions to Injury and Violence Prevention Science** Unmet mental health needs are associated with a multiplicity of injury and violence concerns including substance abuse and suicidality. Addressing gaps in current understandings of the mental health of formerly incarcerated Black men will strengthen opportunities for evidence-based interventions.

**TweetHandle:** Incarceration impacts the health of individuals, families, and communities. @Helena\_Addi will present a review on the mental health of formerly incarcerated Black men & identify gaps in knowledge needed to support evidence-based interventions. Unmet mental health needs are associated with substance abuse and suicidality.

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**0087**

Suicide in the Time of COVID-19: A Perfect Storm

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**Abstract:** Suicide is a leading cause of death in the United States and Kentucky. Precipitating suicide circumstances in Kentucky between 2005 and 2017 most often included depressed mood; mental health, intimate partner, and physical health problems; and substance misuse. These known risk factors will likely intensify as the risk of spreading the virus continues, indefinitely.

Finkel's I-cubed (I<sup>3</sup>) model, not previously applied to suicide, is a novel and validated meta-theoretical framework that can model multiple and interacting risk and protective factors. This theory allows for the incorporation of the pandemic dimension, in order to understand suicidal behaviors and guide future research in this new way [encompassing intrapersonal (eg, comorbid physical and psychiatric illnesses), interpersonal (eg, relationship), and extrapersonal (eg, community, cultural, geographical) determinants].

Preliminary data show that suicides in Kentucky during March were about 50% lower than the average of the previous four years. Overall, suicides have continued to be lower through August. The lower rate does not imply that the pandemic will not impact state and national suicide rates. Historically, suicide rates decrease during the early phase—or "honeymoon" period—of a crisis and during periods of high community cohesion.

Following the honeymoon period, however, rates will likely increase. According to the Substance Abuse and Mental Health Services Administration, the next phase in a disaster is disillusionment, as people realize the limits of assistance. As the crisis becomes chronic, increasing gaps between those that return to business as usual and those that have continued needs lead to feelings of abandonment. This phase can last months and even years.

As we acclimate to a new way of life, we must be proactive and innovative in understanding the effects of the pandemic and then developing targeted pandemic suicide prevention efforts and messages aimed at our most vulnerable populations.

**TweetHandle:** #SuicideinthetimeofCOVID

#APerfectStormofSuicideRiskFactors

0088

**Bidirectional association between daily physical activity and postconcussion symptoms among youth**

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**Abstract: Purpose.** We investigated the longitudinal and bidirectional association between daily physical activity and postconcussion symptoms (PCS) among concussed youth aged 11-17 years.

**Methods.** We prospectively enrolled youth aged 11-17 years with a physician-confirmed concussion within 72 hours of injury. We measured daily physical activity using an ActiGraph and daily PCS using the Postconcussion Symptom Scale from day 1 to day 7 postinjury. We grouped daily step count and PCS into three waves: days 1-3 (Wave 1), days 4-5 (Wave 2), and days 6-7 (Wave 3) postinjury. We examined the bidirectional associations between daily step counts and PCS in the 3-wave, longitudinal design using both a traditional cross-lagged panel model (CLPM) and a random-intercept cross-lagged panel model (RI-CLPM).

**Results.** Participants included 83 concussed youth (54 boys [65%]; mean age 14.2 years; 59 White participants [72%]; and 70 sports-related concussions [84%]). The mean daily step counts were 9,167 at Wave 1, 10,143 at Wave 2, and 10,786 at Wave 3, while the mean daily PCS scores were 27.7, 21.0, and 15.9. In the CLPM, daily step counts and PCS scores showed significant positive autoregressive associations across all waves. In contrast, in the RI-CLPM, the only significant autoregressive association was the path for PCS scores from Wave 1 to Wave 2 ( $p=.002$ ). In the CLPM, only one cross-lagged path was significant, with higher PCS scores at Wave 1 being associated with lower daily step counts at Wave 2 ( $p=.047$ ). No cross-lagged paths were significant in the RI-CLPM.

**Conclusion.** While youth who engaged in more physical activity reported fewer PCS, only one cross-lagged association was significant. Future randomized controlled trials are needed to better understand the effects of physical activity on PCS.

**Significance and Contributions.** This study is the first to assess the bidirectional association between physical activity and PCS using cross-lagged panel analyses.

**TweetHandle:**

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**0089**

Capturing Healing After Gender and Sexual Violence Using Photo-experiencing and Reflective Listening (PEARL)

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<sup>1</sup> *University of Pennsylvania, School of Nursing, Philadelphia, The United States of America* <sup>2</sup> *University of Michigan, Ann Arbor, The United States of America*

**Abstract:**

**Statement of Purpose:** While photo-elicitation has been described as a promising method to explore complex emotional topics such as trauma healing, few methods incorporate a trauma-informed approach grounded in feedback from participants who have experienced violence firsthand. The purpose of this study, therefore was to create and evaluate a new trauma-informed photo-elicitation method, Photo-experiencing and Reflective Listening (PEARL).

**Methods/Approach:** PEARL involves the use of a photography focusing prompt and subsequent activity-based interview to capture day-to-day healing experiences and emotions. We used a concurrent mixed methods approach with 17 survivors of gender and sexual violence to evaluate the feasibility and acceptability of using PEARL to explore one's healing journey.

**Results:** Overall, participants enjoyed the uniqueness of PEARL and found it a non-triggering way to engage with difficult material. Of note, participants said that they fully agreed that the interview covered the most important aspects of the topic for them (N=17) and that it was the correct investigative approach (n=14). Participants also noted that PEARL helped them understand how to improve their situation (n=15) and gave them new ways of looking at their problems (n=14).

**Conclusion:** With careful application, PEARL is a survivor-centered method that allows researchers to get a glimpse at survivor healing experiences through the collection of both visual and narrative data. Future research should explore PEARL not only as a potential data collection technique, but also as an intervention to promote active healing engagement in survivors of gender and sexual violence.

**Significance and Contributions to Injury and Violence Prevention Science:** While PEARL was created for survivors of sexual violence, it can be applied to understand a wide array of violence experiences. Learning from those who have been victims of violence firsthand can help reveal the roots of violence in our society and how we can ultimately prevent it.

**TweetHandle:** New photography research method! @laurasinko shares a new visual data collection method, Photo-experiencing and Reflective Listening (PEARL), that allows researchers to get a glimpse at trauma survivor healing experiences through the collection of both visual and narrative data.

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0090

#### **ABUSIVE HEAD TRAUMA: NEEDS MORE ATTENTION**

H PENDHARKAR<sup>1</sup>, N Pruthi<sup>1</sup>, N Rao<sup>1</sup>, D Shukla<sup>1</sup>, J Vijaysagar<sup>1</sup>, K Jangam<sup>1</sup>, K Thennarasu<sup>1</sup>, N Kamble<sup>1</sup>, S Amudhan<sup>1</sup>

<sup>1</sup> *National Institute of Mental Health & Neurosciences, Bangalore, India*

#### **Abstract: Statement of purpose:**

To review the clinical data, imaging and associated work up of children suspected of AHT at our institute.

About a hundred pediatric patients between newborn to 3 years with head injury are attended to annually in our institute. A pilot study done previously had drawn attention to the prevalence of possible AHT in Indian set up.

#### **Methods/ approach:**

The admission non contrast CT brain of children (newborn to 3 years) who attended the institute casualty with alleged head trauma and were suspected of AHT between 2016-2020 was reviewed. Of these 18 patients, there were 12 males & 6 females, age ranging from 1m to three years (avg age 14.7months).

#### **Results:**

The imaging findings included: convexity SDH (10/18), tentorial SDH (2/18) interhemispheric fissure SDH (4/18), parenchymal hemorrhage (1/18), sub arachnoid hemorrhage (1/18), hypoxic ischemic injury (2/18), skull fractures (4/18).

The clinical history was often misleading. Despite suspecting AHT, the work up for AHT was incomplete and included: CT brain (17/18), chest x-ray (11/18), complete skeletal survey (4/18), MRI brain (6/18), fundoscopy (6/18).

#### **Conclusion:**

Based on the clinical profile, imaging findings and related work up a few cases were considered to be possible AHT. The imaging though points to possible AHT, extensive work up is needed to assert or refute AHT.

#### **Significance & contributions to injury & violence prevention science:**

This analysis highlights that when AHT is suspected, the work up of cases to assert or refute AHT needs to be complete. If the clinical & imaging data of all children under 3 years of age, attending our institute and with findings pointing to AHT were evaluated; a much larger number of cases could possibly be identified thus changing the perception that AHT is not as rampant in India. It would then help work on prevention.

**TweetHandle:** Suspicion of a given condition is essential to identify it. Abusive head trauma exists across the globe. The more we identify it, the better will be our work up towards it. In due course data will guide us to implement preventive measures & formulate policies to limit it.

( i do not have a twitter handle)

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**0091**

#### **Association of socio-economic status and sexual violence among children in Malawi in 2013: a cross-sectional study**

I Alam<sup>1, 2</sup>

<sup>1</sup> *University of North Carolina at Chapel Hill, Gillings School of Global Public Health, Department of Epidemiology, Chapel Hill, The United States of America* <sup>2</sup> *University of North Carolina at Chapel Hill, Injury Prevention Research Center, Chapel Hill, The United States of America*

**Abstract:** The purpose of this study was to estimate the association between household socio-economic status (SES) and sexual violence among children in Malawi.

The Violence Against Children (VACS) was a national cross-sectional household survey among males and females aged 13- 24 in Malawi. The analysis sample was restricted to age group 13 - 17 (n = 1,057). The exposure was household SES. A SES score was constructed by using asset data and applying principal component analysis. The SES score was categorized into tertiles based on the distribution of the score (high, medium, low). The outcome was sexual violence in the past 12 months. Sexual violence included sexual touching, attempted sex, physically forced sex, and pressured sex. A logistic regression model was used to determine prevalence odds ratio (POR) and 95% confidence interval (CI) for the association between SES and sexual violence. Confounders in the final adjusted model included age, sex, marital status, orphan status, and gender inequity norms.

The odds of sexual violence among children in high SES households is 1.24 times the odds of sexual violence among children in low SES households (POR: 1.24, 95% CI: 0.84, 1.85). The odds of sexual violence among children in medium SES households is 1.19 times the odds of sexual violence among children in low SES households (POR 1.19, 95% CI: 0.78, 1.80).

High and medium SES were associated with higher odds of sexual violence among children aged 13-17 in Malawi.

This study contributes to the growing body of research evaluating the association between SES and childhood violence in Africa. More research is needed to understand the cultural and geographical context of childhood violence in the region and in Malawi. The findings of this study highlight the need for targeted interventions towards high and medium SES households to prevent violence against children in Malawi.

**TweetHandle:** Household socio-economic status is associated with sexual violence among children aged 13-17 in Malawi. More research is needed to understand the cultural and geographical context of childhood violence in Africa and in Malawi.

Author: @ishrat\_z\_alam

Graduate student: @UNCPublicHealth

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**0092**

Daily routines and social interactions as contexts for school violence: a qualitative study

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School of Medicine, University of Pennsylvania, Philadelphia, The United States of America <sup>3</sup>

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School of Public Health, New York, The United States of America



**Abstract:** School violence is a major concern for the safety and wellbeing of school-age youth. In 2018, adolescent students reported 836,000 nonfatal victimizations at school, and 410,000 away from school. These experiences are disruptive to the educational environment and associated with negative mental health, school performance, and delinquency outcomes. The purpose of this study was to understand how students' daily routines and social interactions over the school day influence risk of violence with the goal of informing intervention.

We conducted this qualitative work in the context of a large-scale, mixed-methods investigation of school violence in an urban setting. Semi-structured interviews (n=56) were conducted with 12-18 years old who lived/went to school in Philadelphia, PA, and were involved (victim/perpetrator) in a violent school-related assault in the six months prior to their interview. Interviews were recorded, transcribed and entered into NVivo 12 for coding and analysis. Using a modified grounded theory approach, we developed a codebook matching common themes identified in the interviews.

Preliminary results suggest school-related violence is infrequently a random act; instead there was usually a precipitating event, and these incidents almost always involved people who knew each other. Important emerging themes included: opportunities to intervene; role of adults and peers in encouraging/discouraging violence; varied attitudes towards school supervision; role of social media; and presence of trauma and importance of emotion regulation. Social environment was considered in the context of the physical environment to enhance the meaning of place.

School violence occurs with some regularity, and violent acts or incidents are often the final culminating events, offering several areas of modifiable factors for intervention leading up to the incident.

Findings from this study lend important insights for to reduce school violence and will inform training and policy recommendations at the local level which can also be adapted nationwide in similar settings.

**TweetHandle:**

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**0093**

State Driver Licensing Agency Policy Adaptation during COVID-19: A Content Analysis

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<sup>1</sup> *Center for Injury Research and Policy in The Abigail Wexner Research Institute at Nationwide Children's Hospital, Columbus, The United States of America*

**Abstract: Purpose:** We analyzed adaptations of state driver licensing agencies (e.g., DMV, BMV, etc.) operation policies during the COVID-19 pandemic across 50 US states. Specifically, we analyzed the contents of policy adaptations related to road testing adaptation, licensure extension and renewals, and re-opening precautions.

**Methods:** We searched state driver licensing agencies websites across all 50 states, except the District of Columbia, and collected all pages and tabs on policies related to operation practices adapted during the COVID-19 pandemic. Three coders independently analyzed the policy content and identified subthemes for the three major adaptation areas. Two coders scored each subtheme ranging from 0 to 2, with a higher score indicating stricter COVID-19 precautions. Direct quotes were identified to support each subtheme.

**Results:** All 50 state driver licensing agency policies contained road testing adaptation, and licensure extension and renewals, but 45 (90.0%) contained re-opening precautions. Common re-opening precautions included requiring social distancing (n=30, 60%) and face coverings/PPE (n=29, 58%) inside office buildings. Very few states indicated safety precautions were not required. Nearly all states extended license renewal (n=49, 98%), but extensions varied by time, beginning date, and end date. Most also allowed for online or mail-in renewals (n=43, 86%). Lastly, changes related to road-testing were the least commonly described, with the most common change being the adoption of COVID-19 related precautions during the road test (e.g., sanitizing the vehicle, wearing face coverings/PPE during the test, etc.) (n=22, 44%).

**Conclusion:** While driver licensing agencies in all states made some operation policy adaptations due to COVID-19, these varied by strictness and type of precaution taken. Future studies should examine the influence of these adaptations on driving behaviors and road safety.

**Significance and Contributions:** Our results contribute to understanding how state agencies adapted their policies to combat COVID-19 and maintain driver safety.

**TweetHandle:** Did you experience changes at your DMV during COVID? You're not alone! Learn more about the changes made at DMV offices across the US to protect citizens from COVID-19 and how they may affect driver safety from @robynsienna and @CIRPatNCH.

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**0094**

An Investigation of Risk & Protective Factors for School-aged Child Injuries: The Influence of Siblings

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<sup>1</sup> *University of Manitoba, Winnipeg, Canada* <sup>2</sup> *University of Manitoba, Winnipeg, Canada*

**Abstract:** Statement of Purpose. Previous research has identified a variety of risk and protective factors for injuries in school-aged children, including age, sex, number of siblings, and child risk taking behaviors. The goal of the present study was to go beyond these know risk factors and investigate if and how siblings influence the frequency and severity of childhood injuries.

Methods/Approach. Seventy-nine families with two school-aged children aged seven and ten years old on average were recruited from the community; 54% were female. Parents were 38 years old on average and self-identified as multiracial (8%), Indigenous (18%), and European-Canadian (75%); 92% were female. Parents reported on the frequency of minor and medically-attended child injuries within the past three months. They also reported on child risk-taking behavior and sibling supervision. Children reported on warmth and hostility in their sibling relationships.

Results. Larger sibling spacing but not number of siblings was significantly associated with more minor injuries for younger siblings. Boys with older brothers experienced significantly more medically-attended injuries than boys or girls with older sisters. Greater risk taking was related to significantly more minor injuries for both younger and older siblings. Younger but not older sibling minor injuries were negatively related to sibling warmth and positively related to sibling hostility. Sibling supervision was not associated with injury frequency or severity, but was negatively related to warmth reported by both younger and older siblings.

Conclusions. In addition to well-known demographic characteristics, siblings played an influential role in both elevating and mitigating injury risk for school-aged children, with older siblings having a greater influence on safety.

Significance & Contributions. Siblings are often not taken into account in injury research, their influence on child safety is understudied. The present study highlighted some of the important aspects of sibling influence that could inform future injury prevention programs.

**TweetHandle:** Siblings play an important but under-studied role in child injuries.

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**0095**

2020: The pandemic, social justice, political climate, and law enforcement stress

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**Abstract: Statement of Purpose**

Evaluate how external, national events in 2020 (i.e. COVID-19 pandemic, social justice, and the political climate) impacted law enforcement officer (LEO) stress.

**Methods**

In September 2020, 18 patrol officers with at least one-year post-academy experience were recruited from two police departments (urban and suburban) for semi-structured interviews. The purpose of the interviews was to explore if and how LEO stress changed due three specific external, nationwide stressors: 1) global pandemic; 2) social injustice; and 3) political climate. Interviews were conducted virtually and lasted approximately 1 hour. Emergent findings were grouped into categories of themes using an immersion-crystallization approach.

## **Results**

The average participant was 34 years old and 83% of officers were non-Hispanic White. The COVID-19 pandemic contributed to officer stress in three ways: 1) fewer, but more serious calls for service (i.e. homicides); 2) vulnerability of COVID-19 infection and fear of transmission to immediate family; and 3) financial instability from changes in side jobs (outside police work) and spouses' incomes. The political climate and social justice movements also contributed to officer stress through: 1) negative perceptions from the media and the public; 2) concerns about departmental support if force is exercised; and 3) concerns for own safety not directly related to calls for service (i.e. being ambushed). Additionally, officers reported stress overall due to changing guidance from administration. Together, the compound stress led to less proactive policing to avoid civilian encounters.

## **Conclusions**

LEOs experienced heightened levels of multifaceted stress due to 2020 events. Additional resources or interventions should immediately be implemented to combat mental health among LEOs.

## **Significance and Contributions to Injury and Violence Prevention Science**

LEOs deal with chronic stress due to unique occupational duties. While high baseline levels of stress have been identified, the impact of 2020 events on stress had yet to be examined.

**TweetHandle:** Due to the COVID-19 pandemic, social justice movements, and political climate, law enforcement officers experienced heightened levels of multifaceted stress throughout 2020.

**@RJMolsberry @UTexasSPH @dr\_kkjetelina**

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**0096**

Social Support in Family Treatment Courts

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<sup>1</sup> *Nationwide Childrens Hospital , Columbus, The United States of America*

**Abstract:** Statement of purpose: Family treatment courts (FTC) are specialized courts that are meant to increase family reunification and treat substance use disorders. This intervention is targeted for parents/caregivers with child welfare cases of abuse and neglect in which substance use has been identified as a contributing factor. Although there are over 3000 drug treatment courts there are differences among them across the U.S. and little is known about the permanency of reunification among the program. Social support networks have played a large role in the recovery of substance use disorders, yet there is a gap in what kind of role these social supports play in permanency and reunification efforts in FTC's.

**Methods:** The two phased study includes (1) observations of FTC's and (2) semi-structured interviews with participants and alumni of the FTC program. For phase one of the researchers will observe 12 weeks of FTC sessions and find themes within the sessions that speak to the caregiver/parent's social support systems. Phase two of the study will require participants to complete a toxic social network survey and a social support survey in addition to participation through a semi-structured interview. Both observations and interviews will be recorded and transcribed by a third-party service. After reviewing transcripts, a codebook will be developed and used to analyze the data using Atlas t.i. Coding will be done independently and intercoder reliability will be assessed.

**Results:** Re-occurring themes in the data analysis will inform the significance of social supports and what social supports are available to this population. Data collection is underway and preliminary study results will be available by April 2021.

**Conclusions:** This research will inform what healthy relationships are supporting long-term recovery and appropriate parenting practices that could prevent child injury and abuse as well as increase permanency outcomes.

**TweetHandle:** Interviews with Family treatment court (FTC) participants explain how and if social supports effect family reunification efforts.

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**0098**

Community engagement and the development of a rural road safety campaign

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*University of Iowa, Iowa City, The United States of America* <sup>3</sup> *Purdue University, West Lafayette, The United States of America*

**Abstract: Statement of Purpose:** Evaluation of community engagement in the development and dissemination of a rural roadway safety campaign.

**Methods/Approach:** We implemented “We’re On This Road Together,” a health communication campaign that targeted rural drivers’ interactions with farm vehicles and had three main messages: Slow Down, Leave More Space, and Avoid Passing. Campaign development and implementation was guided by a community advisory board (CAB) who gave input and direction on campaign message design and dissemination at monthly meetings. They also led campaign activities (hanging banners, distributing swag--totes, car air fresheners, etc.).

To guide our future collaborations with CABs, we conducted in-depth, semi-structured telephone interviews with CAB members (n=8) in the summer of 2020. Interviews were recorded and audio files were transcribed by a third-party service. After transcription, a research team member coded the interview transcripts. Codes were then organized by common themes: 1) overall experience, 2) responsibilities & commitment, 3) perceived campaign success, 4) resources needed for project implementation, and 5) recommendations for improvement.

**Results:** Interview length averaged 25 minutes (range: 16-41). CAB members reported overwhelmingly positive experiences, reasonable time commitment, and successful format and frequency of communication. They viewed the overall project a success and valued our team’s community engagement efforts. However, the CAB had recommendations for improving campaign impact and reach, including adding online/social media campaign elements, expanding diversity of CAB membership (age, occupation/industry), and team-building activities to increase group bonding.

**Conclusions:** Formation of a community advisory board was successful and critical in message development, implementation, and overall impact of our rural road safety campaign.

**Significance and Contributions to Injury and Violence Prevention Science:** This project demonstrates how to engage community advisors in development and delivery of a road safety campaign, which can be applied to other injury and violence prevention campaign activities.

**TweetHandle:**

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0099

**Validity of ICD-10-CM Diagnosis Codes for Traumatic Brain Injury in VA Administrative Data**

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**Abstract: Purpose:** International Classification of Diseases, Tenth Revision (ICD-10), Clinical Modification codes are used to identify Veterans with traumatic brain injury (TBI) for surveillance and research. We examined the validity of using ICD-10 codes in Veterans Health Administration (VA) administrative data to identify Veterans with TBI.

**Methods:** Clinician-confirmed TBI cases and non-cases after October 1, 2016 were extracted from the VA Comprehensive TBI Evaluation (CTBIE) database, a standardized TBI evaluation tool, and used as the criterion standard. Accessing VA administrative healthcare data, we compared three series of TBI-related ICD-10 codes recommended by the Centers for Disease Control and Prevention (CDC), the Defense and Veterans Brain Injury Center (DVBIC), and the VA TBI Program Office (VA) to clinician-confirmed TBI diagnoses. Sensitivity, specificity, and concordance were calculated. The validity of distinguishing TBI severity (mild versus moderate/severe), using DVBIC-recommended codes, was also examined.

**Results:** Among 29,767 Veterans who received a CTBIE between 2016 and 2019, 20,670 (69.4%) received a clinician-confirmed TBI diagnosis and 20,760 (69.7%) had at least one TBI-related ICD-10 code assigned from any series. The CDC series had low sensitivity (40.8%) but high specificity (80.7%; 53.0% concordance). The DVBIC series had moderate sensitivity and specificity (71.7% and 63.9%, respectively; 69.3% concordance). The VA series had high sensitivity (81.8%), but moderate specificity (58.8%; 74.7% concordance). The sensitivity of DVBIC-recommended codes to distinguish TBI severity was high (83.4%), but specificity was low (21.5%; 76.4% concordance).

**Conclusion:** We found that all three series of ICD-10 codes for TBI resulted in considerable misclassification of clinician-confirmed TBI cases and non-cases. The potential misclassification in studies using ICD-10 codes to examine TBI prevalence and outcomes among Veterans should inform surveillance and research efforts.

**Significance:** Examining the validity of methods used for enumerating TBI cases allows researchers to interpret and translate their findings in the context of potential error.

**TweetHandle:** Missclassification is possible when using ICD-10-CM diagnosis codes for identifying TBI in Veterans. Comparing clinician-confirmed TBI cases and three series of TBI-related ICD-10 codes, sensitivity (40-81%) and specificity (58-80%) ranged from low to high. These results inform TBI surveillance and research efforts.

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## 0101

Community Greening, Fear of Crime, and Mental Health Outcomes in Flint, Michigan

C Burt<sup>1</sup>, M Kondo<sup>2</sup>, C Gong<sup>3</sup>, G Bushman<sup>3</sup>, C Wixom<sup>3</sup>, E South<sup>4</sup>, P Carter<sup>3</sup>, R Cunningham<sup>3</sup>, C Branas<sup>5</sup>, B Hohl<sup>6</sup>, M Zimmerman<sup>3</sup>

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**Abstract: Purpose:** The purpose of this study was to explore how land parcel maintenance is associated with positive mental health outcomes using data collected during community greening efforts conducted in Flint, MI in 2017-2018. Unmaintained vacant land in urban areas is associated with a number of negative outcomes for residents of urban areas, including mental and physical health, safety, and quality of life. Community programs which promote land parcel maintenance in urban neighborhoods have been found to reverse some of the effects that unmaintained land has on nearby residents.

**Methods:** Trained observers assessed the maintenance of approximately 7200 land parcels and surveyed 691 residents (57% Female, 53% Black, *M* age = 51). We grouped land parcels and aggregated resident data to 397 street segments and compared three structural equation models (SEM) to estimate the relationships between parcel maintenance, fear of crime, and mental distress for residents when controlling for a set of individual-, neighborhood-, and Census-level variables.

**Results:** We found a negative association between parcel maintenance values and fear of crime, and a positive association between fear of crime and mental distress at the street segment level.

**Conclusions:** Our results supported our hypothesis that the general land maintenance is related to mental distress through its relationship with residents' fear of crime.

**Significance:** Continued development and support of community greening programs are likely to be associated with positive health and safety outcomes for residents in maintained neighborhoods.

**TweetHandle:**

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## 0103

Comparing the performance of two short predictive screeners to assess future development of PTSD and depression: Results from a cohort study of seriously injured adults

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**Abstract:** Statement of purpose: To appraise the ability of two short clinical screeners designed to predict future development of post-injury depression and PTSD in traumatically injured patients.



**Methods:** This study is part of a prospective longitudinal cohort study to improve the health of urban Black men after serious injury. The sample consisted of English-speaking, self-identified Black men at least 18 years old, residing in the Philadelphia metropolitan area, who were hospitalized for an acute traumatic injury. The two screeners used were the Penn Richmond Screener (PRS) and the Posttraumatic Adjustment Screen (PAS).

**Results:** A total of 623 participants completed baseline interviews. Over 80% completed the 3-month follow-up interview and had complete data for depression (n = 502) and PTSD (n = 501). Of these, 177 (35.3%) met criteria for depression and 145 (28.8%) for PTSD; 116 participants met criteria for both depression and PTSD (23.2%). Both screeners have similar positive predictive values (PPV) for depression. PAS performs slightly better in PPV for PTSD. Both screeners have high negative predictive values for PTSD and depression, so they will adequately identify individuals who will not develop symptoms. The area under the curve for PTSD and depression in both screeners is similar, so they similarly classify those with and without future risk of symptom development.

**Conclusion:** PRS and PAS, developed through different methods and with different populations, show comparable predictive ability within the study population. Thus, mental health outcomes can be predicted in various populations using screeners the clinician values for brevity over the similarity of patient population to the screener's test population.

**Significance to Injury & Violence Prevention Science:** ACS-COT encourages screening all patients for depression and PTSD risk. Integrating a predictive screener prior to discharge is critical to identifying those at risk and targeting patients who would benefit from post-discharge concurrent screening.

**TweetHandle:**

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**0104**

### **Socialization of Safety Values in Children: The Role of Parent and Child Gender**

E O'Neal<sup>1</sup>, H Tang<sup>2</sup>, J Flathau<sup>2</sup>, J Plumert<sup>2</sup>

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#### **Abstract: Statement of Purpose**

Little is known about the role of fathers in the socialization of safety values in children. Here, we examine how parent and child gender influence the socialization of safety values.

#### **Methods/Approach**

Thirty-six parent-child dyads, with 8- to 10-year-old children (18 females, 27 mothers), jointly discussed and rated a set of 12 photographs depicting a child engaged in various physical activities (e.g., reaching over a hot burner to pick up a pan). Conversations were coded for measures of who provided the initial rating, disagreements about safety, dangerous features and potential outcomes used to support ratings, and the final rating.

## Results

Mixed-effects regressions included fixed effects of parent and child gender, a random intercept of dyad, and a covariate of child age. Mothers were 1.90 times more likely to provide the first rating with daughters, whereas fathers were 3.49 times more likely to do so with sons,  $z = 1.96, p = .04$ . Mothers and sons were 1.75 times more likely to disagree when compared to mother-daughter dyads, whereas fathers and daughters were 2.27 times more likely to disagree with one another compared to father-son dyads,  $z = -2.70, p = .01$  (Figure 1). While gender did not significantly predict references to dangerous features or potential outcomes, dyads with fathers rated the activities as being safer compared to dyads with mothers,  $t(31) = -2.13, p = .04$ .

## Conclusions

Allowing children to provide the first safety rating is critical for understanding their perspective, yet parents in same-gender dyads did so more often than opposite-gender dyads. Disagreements are important in parents' efforts to socialize safety values, but again same-gender dyads disagreed less than opposite-gender dyads.

## Significance and Contributions to Injury and Violence Prevention Science

Fathers may be underplaying riskiness relative to mothers and therefore increasing risk of childhood injury.

**TweetHandle:** @elizabethoneal1

When examining how parent and child gender interact when discussing safety, we found parents in same-gender dyads don't allow for as much child input. Compared to moms, dads downplay risks in conversations and may be contributing to increased childhood injury risk.

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## 0105

Young Driver License Examination Outcomes in Relation to Age, Sex, Length of Learner Permit and Completion of Driver Training.

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**Abstract:** Purpose: The on-road examination (ORE) for licensure marks the transition from supervised to unsupervised driving, but also to a driver's highest lifetime crash risk. The period pre- and post-licensure has been studied, yet the point of licensure itself is less documented. We describe license examination outcomes in relation to applicant age, sex, length of learner permit and completion of driver training.

Methods: We utilized unique access to the State of Ohio's de-identified administrative licensing data. We examined all drivers under the age of 25 who attempted the on-road examination (ORE) for the first time across the state of Ohio in 2018. This dataset contained age at the ORE, sex, an indication of completed driver training (mandatory for those under 18 years), and ORE outcomes. We derived length of learner permit and categorical age groups to examine the impact of age-defined driver training regulations.

Results: Applicants aged 16 and 17 spent 6 and 9 months (respectively) in the learner permit, on average. Applicants aged 18 years had a shorter learner periods and only 27% completed driver training before attempting the ORE. Fail rates were lowest for the youngest applicants, with a linear increase in fail rates with increasing age. About 40% of applicants aged 18+ years failed the ORE at first attempt, compared to only 23% of those younger than 18 years.

Conclusions: Older applicants without complete training are more likely to fail. Almost no applicants finished training before attempting the ORE if they were older than the age set by regulation, which strongly indicates that participation in driver training is driven by statute.

Significance: These results should be considered when states contemplate policy that mandates driver training. Future work that relates license examination performance and driver training to crash outcomes will determine their impact on young driver safety.

**TweetHandle:** @EAWalshe

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**0106**

Predictors of partner violence against women in Angola

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**Abstract:** Purpose: Angola is still an under-explored country in the context of domestic violence and was therefore chosen as our focus of interest. The objective of our study was to identify socio-demographic determinants of IPV against women in Angola.

Methods: We used nationally representative data from female respondents of the 2015 Angolan Demographic and Health Surveys (DHS). Simple bivariate and multiple logistic regression analyses were used to assess the relationship between the experience of IPV and the women's individual and contextual characteristics.

Results: Out of the 7,699 respondents, 3,070 (41.1%) reported having experienced at least one form of violence by their partners, with physical violence being more prevalent (32.5%) than emotional (27.7%) and sexual violence (7.2%). The partner's use of alcohol, the respondent's tendency to hurt her partner, her having witnessed her father beating her mother and being the first wife showed significantly higher odds of experiencing one or more types of IPV, whereas being older than the partner appears to have protective effects.

Conclusion: Our results reflect the widespread prevalence rates of violence against women in African countries. Future intervention programs should focus on women with risky background characteristics to help decrease domestic abuse in Angola.

Significance: Our findings can help to identify women at risk more easily and to create more effective prevention programs against IPV in Angola.

**TweetHandle:** Prevalence of and Risk Factors for Intimate Partner Violence Against Women in Angola.

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0107

### **Behavioral characteristics of young drivers observed to engage in risky driving in a national smartphone-based auto insurance program**

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#### **Abstract: Statement of Purpose**

We determined whether behavioral characteristics were associated with observed risky driving behaviors among a national sample of young drivers.

#### **Methods/Approach**

This was a secondary analysis of baseline data of 16-24 year old drivers from 43 U.S. states from a randomized trial investigating smartphone-based interventions to reduce handheld phone use while driving in Progressive's usage-based auto insurance program ([#NCT03833219](#)). Two risky driving behaviors were measured by the Progressive Snapshot Mobile app during a 7-week baseline period: 1) handheld phone use (median=4.1 minutes/hour of driving) and 2) hard braking events (median=2.4/100 miles). We defined *higher-risk* as greater than median on both measures and *lower-risk* as lower than median on both measures. We collected demographic information and self-reported phone use automaticity, a phone involvement scale (cognitive and behavioral association with their phone), and delay discounting rates. We used logistic regression to determine whether increased phone use automaticity, involvement, and delay discounting rates were associated with higher-risk driving behavior.

## Results

Of the 2,108 trial participants, 430 were aged 16-24, with 124 classified as higher-risk and 127 as lower-risk. After adjusting for demographic factors (age, sex, race, education, income, marital status, geography) and hours of driving, higher phone use automaticity (P=0.049) was independently associated with being a higher-risk driver. Greater tendency to favor immediate rewards (P=0.057) was marginally associated with being a higher-risk driver but higher phone involvement (P=0.373) was not associated.

## Conclusions

In a national sample of insured young drivers, individuals who report subconsciously checking their phones while driving or who favor immediate rewards tended to have observably higher rates of handheld phone use while driving and hard breaking events.

## Significance and Contributions to Injury and Violence Prevention Science

Strategies to help individuals who impulsively or without thinking use their phones while driving may prove fruitful for reducing crash risk.

## TweetHandle:

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0108

### Limitations of opioid use disorder (OUD) ICD codes: Development and validation of a new OUD identification algorithm in electronic medical records

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**Abstract: Introduction:** In the US, over 130 lives are lost from opioid-related drug overdoses each day. Accurate and prompt diagnosis of opioid use disorders (OUD) may contribute substantially to prevention of overdose deaths. However, OUD research is limited because ICD codes used to identify OUD are specific but not sensitive, resulting in underestimation OUD prevalence. Further, the specificity and sensitivity of the OUD ICD codes is unknown due to the lack of a gold standard.

**Methods:** In this study, eight pain and addiction medicine clinical experts across four large healthcare systems in two southern United States (two experts per healthcare system) reviewed 166 electronic medical records (EMR) from 2014-2017 which may or may not have been assigned OUD ICD codes. The experts relied on Diagnostic and Statistical Manual of Mental Disorders-5 criteria for making OUD diagnoses. These “gold standard” charts were used to 1) develop and validate a highly sensitive OUD identification algorithm over four iterations and 2) examine the sensitivity and specificity of OUD ICD codes.

**Results:** Of the 166 EMR charts, 100 (60%) were reviewed by two experts and exhibited 83% agreement. After four iterations, the algorithm identified OUD with >90% sensitivity and 67% specificity. The OUD ICD codes had 59% sensitivity and 93% specificity, underscoring the extent underestimation.

**Conclusions:** This is the first study to measure the sensitivity and specificity of OUD ICD codes and develop an algorithm to address OUD underestimation. This work can be used in future research on OUD prevention and management.

**Significance:** Strategies to address the opioid epidemic have primarily focused on prevention of overdose deaths. Underdiagnoses of OUD may contribute to frequent failure in connecting patients to treatment. From an injury pyramid perspective, preventing OUD development or escalation would reduce overdoses and improve quality of life for patients with OUD.

**TweetHandle:**

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**0109**

### **Do anti-bullying laws work? A 26 year analysis of laws in the United States**

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**Abstract: Purpose:** Although all 50 states have enacted anti-bullying legislation, research is limited on the effectiveness of these laws. The goal of this study is to evaluate whether these laws prevent bullying and other forms of youth violence.

**Methods:** We linked 1991-2017 student-level reports of youth violence collected through the Youth Risk Behavior Surveillance System (YRBSS) with 1999-2017 data on codified anti-bullying policies and their amendments developed by the Public Health Law Research Center (Temple University). We employed survey-weighted logistic regression models that examined time-varying state policies to compare the annual rates at which bullying and physical fighting change over time in states with and without anti-bullying policies. The effects of specific policy components (e.g., definitions, scope, funding, training) were also individually assessed. We additionally examined one-, two-, and three-year lagged effects.

**Results:** We observed a modestly more rapid reduction over time in the occurrences of physical fighting at school within states that enacted anti-bullying policies relative to those that did not (Ratio of Odds Ratios (ROR): 0.971, 95% CI: (0.965, 0.977)), which corresponded to a predicted 2600 fewer physical fights per million students. However, we did not observe comparable protective effects for bullying. Results for lagged effects were similar in magnitude.

Effect sizes for individual policy components ranged from ROR = 0.952 to ROR = 1.035 among models corresponding to physical fighting, and ROR = 0.974 to ROR = 1.022 among those corresponding to bullying. Policies that enforced training for prevention programs had the strongest protective effect for physical fighting (ROR=0.952).

**Conclusion:** Although anti-bullying policies overall have modest impacts on school violence, these effects are associated with reduced burden at a population-level. Policy makers may want to focus on individual components, such as requiring training for prevention programs, which may play a larger role in reducing violence outcomes.

**TweetHandle:** @Ramirez\_Marizen

Anti-bullying laws in the US have modest impacts. Of all policies, requiring prevention program training works best to reduce fights in schools.

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**0110**

**Emotional/behavioral difficulties and racial and ethnic discrimination among youth and families: results from a pilot study**

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## **Abstract: Statement of Purpose**

Racial discrimination presents a lifelong chronic stressor and has been found to impact mental health outcomes for individuals and their families. In a sample of families receiving before- and after-school services, we surveyed children and parents on their experiences with racial discrimination and correlated results to children's emotional and behavioral difficulties.

## **Methods/Approach**

Using a community-engagement approach, children and parent dyads were recruited from Twin Cities Boys and Girls Clubs. Parents and children completed questionnaires on their experiences with racial discrimination along with the Strengths and Difficulties Questionnaire for children. Linear regression adjusted for gender and race to compare racial discrimination scales to both parent- and self-reported emotional and behavioral difficulties for children.

## **Results**

32 racially diverse child-parent dyads were enrolled into the study and returned the cross-sectional survey. Overall, 91% of parents and 80% of children reported some form of racial discrimination in their lifetime, such as receiving unfair treatment at work or school, experiencing threats or harm, or being insulted, devalued, or excluded because of their race or ethnicity. An increase in children's emotional/behavioral difficulties was observed with each additional experience of racial discrimination reported by children ( $\beta=1.5$ , 95% CI 0.4-2.5) as well as with each unit increase in the lifetime racial discrimination scale for parents ( $\beta=5.0$ , 95% CI 0.8 – 9.2).

## **Conclusions**

Racial discrimination, including the effects of lifetime racism experienced by their parents, can impact the emotional and behavioral health of children. Early intervention is critical to reducing the adverse effects of transgenerational racism and ethnic discrimination.

## **Significance and Contributions to Injury and Violence Prevention Science**

This pilot study underscores the importance of preventing childhood trauma among racially and ethnically-diverse communities. Community-based injury research may benefit from considering both the experiences of children and parents in relation to children's injury or mental health outcomes.

## **TweetHandle:**



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**0111****An Analysis of Forklift Related Fatalities in the United States from 2001 to 2017**

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**Abstract:** Statement of Purpose: The recent growth of online retailing has been reflected in similar growth in the transportation and warehousing industry. There is concern that online retailers are jeopardizing worker safety in order to speed up product delivery. The safety of workers around forklifts—ubiquitous in transportation and warehousing—is of particular concern. Most research on forklift related injuries used data prior to 2000. Examining more current data is warranted.

**Methods/Approach:** We examined trends in forklift related fatalities occurring in the U.S. from 2001-2017 using data from the Census of Fatal Occupational Injuries. To identify the patterns of these types of fatalities by industry and specific cause, we are examining fatality reports from OSHA's Integrated Management Information System.

**Results:** In total, 1788 forklift related fatalities occurred from 2001-2017. Fatalities increased from 123 in 2001, to a peak of 150 in 2005, before gradually declining to a low of 74 in 2017. The industries accounting for the largest proportion of forklift related fatalities were manufacturing (22.5%), construction (16.3%), transportation and warehousing (13.2%), and wholesale trade (12.1%).

**Conclusions:** Forklift related fatalities have decreased overall since 2005. However, dozens of unnecessary deaths still occur every year due to forklifts. Prevention efforts should be targeted at the four industries accounting for 64.1% of all forklift related fatalities.

**Significance and Contributions to Injury and Violence Prevention Science:** While the number of fatalities from forklifts has decreased in recent years, these fatalities still happen all too frequently considering that most could be prevented. Understanding more about how these incidents happen will allow us to develop new interventions, which are especially needed in the four industries that account for almost two thirds of all forklift related fatalities. Our findings will create a blueprint for progress towards safer workplace practices in these industries.

**TweetHandle:** Warehousing and transportation workers need our help, let's talk about forklift safety! "An Analysis of Forklift Related Fatalities in the United States from 2001 to 2017", happening now.

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**0112**

## The Number and Type of Private Firearms in the United States: Results from the 2019 National Firearms Survey

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### **Abstract:** Statement of Purpose

The purpose of this work is to provide updated nationally representative estimates of the US gun stock including novel estimates of the number of guns by gun type and sub-type.

### Methods/Approach

Data for this study came from a web-based, nationally representative survey of 2,950 gun owners conducted in August of 2019. Respondents were asked specific questions about household firearms including the number and types of guns in the home, storage practices, and reasons for ownership. To ensure results representative of the US adult (aged  $\geq 18$  years) population in 2019 we used weights that combined pre-sample and study-specific poststratification weights to account for oversampling and survey non-response in all analyses and in reporting weighted percentages and 95% confidence intervals.

### Results

The gun stock is an estimated 270 million guns among approximately 53.8 million gun owners across the United States. 45% are handguns and about 56% are long guns, including an estimated 18.9 million semi-automatic military style rifles. Handguns are the majority of guns owned by those with two or fewer guns while long guns are the increasing majority of guns owned by those with three or more guns. Most of the private gun stock is found at the homes of gun owners (84%), but an estimated 4.5 million handguns can be found in cars.

### Conclusions

In order to effectively account for exposure, interventions and advice to improve storage of private guns should account for the number and types of guns owned, and when storage devices are provided, should consider long guns as well as handguns especially in homes with multiple guns.

### Significance and Contributions to Injury Prevention Science

These estimates reflect firearms exposure and inform firearm injury prevention aimed at reducing household exposure.

**TweetHandle:** New estimates on the number of private guns by type and sub-type in the US from the Injury Control Research Center @HarvardChanSPH

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0113

**Cost of head injuries caused by motorcycle crash among helmet users and non-users in a public tertiary care hospital of Karachi, Pakistan.**

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**Abstract: Statement of Purpose:** Motorcycle riders are one of the most vulnerable road users. Helmet use may reduce healthcare cost due protective effects against head injuries. In this study, we aimed to estimate the difference in the healthcare cost of head injuries among motorcycle riders who were wearing helmet and those who were not wearing helmet at the time of crash.

**Methods:** Motorcycle crash victims that were brought to a public tertiary care emergency in Karachi between July to September 2019 were studied through descriptive cross-sectional design. A self-structured standard questionnaire form was used to collect data on demographics, injury pattern, helmeting practice, and length of hospital stay, out-of-pocket payments (OOP), healthcare service utilization at the facility and all direct and indirect medical costs incurred during hospitalization period.

**Results:** 323 motorcyclists were involved in the accident, 112 patients had head injuries with mean age of 32 years old. The helmeted motorcyclists had a significantly lesser median total healthcare cost of PKR 10796 (\$69) [IQR 9851 -12581] as compared to higher cost of PKR 12113 (\$77) [10431 - 50545] by the non-helmeted counterpart during the hospital stay.

**Conclusion:** The results of this study demonstrates that helmet use among motorcyclists can significantly reduce healthcare costs and healthcare resource utilizations during hospitalization in managing head injuries. Thus, it is important to implement strict helmeting practice to decrease cost burden on healthcare facility and patient's care givers.

**Significance:** The cost-saving ability of helmet use is widely reported around the globe. However, many studies have reported hospital charges instead of cost which may not reflect the actual cost of managing injuries. Our study has used healthcare cost estimation to provide contextual evidence on cost-saving ability of helmet and can help in prioritizing mandatory helmet use for injury prevention and reduction in economic burden on healthcare system.

**TweetHandle:** Our study demonstrates that helmet use among motorcyclists can significantly reduce healthcare costs and healthcare resource utilizations during hospitalization in managing head injuries. Thus, it is important to implement strict helmeting practice to decrease cost burden on healthcare facility and patient's care givers.

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